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ABSTRACT

This guide contains articles on outdoor recreational activities and official winter sports rules for girls and women. The articles on outdoor activities include the techniques, teaching, and organization of camping, canoeing, competitive cycling, and riflery. Four pages of references on nature and outdoor activities are presented along with two pages of visual aids references. The articles on winter sports contain official rules of and orientation to skiing and ice skating. References and visual aids are also listed for each sport. A section in the guide presents information about the Division for Girl's and Women's Sports and the services it offers to teachers. (BRB)

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JULY 1971 – JULY 1973

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Outing Activities and Winter Sports GUIDE

JULY 1971 — JULY 1973

With Official Rules

Editors

Helen Knierim, *Outing Activities*

Barbara B. Hobson, *Winter Sports*

THE DIVISION FOR GIRLS AND WOMEN'S SPORTS

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DIVISION FOR GIRLS AND WOMEN'S SPORTS

The Division for Girls and Women's Sports is a nonprofit educational organization designed to serve the needs and interests of administrators, teachers, leaders, and participants in sports programs for girls and women. Active members of the Division are women members of the American Association for Health, Physical Education, and Recreation who are interested in sports for girls and women and who participate in the work of the Division. These women are professional leaders in schools, colleges, community centers, industrial plants, military services, public and private clubs, and agencies.

The purposes of DGWS are–

To promote healthful and desirable sports programs for girls and women of all ages. *A sport for every girl and every girl in a sport.*

To provide leadership for sports and recreation programs and to promote such programs.

To formulate and publicize guiding principles and standards for administrators, leaders, officials, and players.

To provide materials and disseminate information for leaders, players, and officials, including rules, technique articles, and other teaching materials.

To stimulate and evaluate research in girls and women's sports.

To provide "on call" service when, where, and as requested. The national office has a DGWS consultant, and each state has a chairman of DGWS. Their names are listed in each DGWS *Basketball Guide.*

Those wishing to provide programs for the highly skilled may obtain the following guidelines from DGWS-AAHPER, 1201 Sixteenth St., N.W., Washington, D.C. 20036 for 10¢ each:

"Guidelines for Interscholastic Athletic Programs for Junior High School Girls"

"Guidelines for Interscholastic Athletic Programs for High School Girls"

"Guidelines for Intercollegiate Athletic Programs for Women."

Sources of Information and Service

The various services are offered by committees. All requests for information or services should be addressed to the chairman of the committee into whose field of work the inquiry falls. Inquiries which cannot be readily classified should be addressed to the DGWS vice-president.

AUDIO-VISUAL COMMITTEE–Reviews films, advises on production, provides lists of up-to-date films available for rental or purchase.
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Historian: MARIANNA TREKELL, Dept. of Physical Education for Men, Univ. of Illinois, Champaign, Ill. 61822

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STATE CHAIRMEN–Each chairman organizes committees for educational and informational work within her state. See list in current DGWS *Basketball Guide.*

STUDENT SPORTS ORGANIZATIONS–Organizational and program services to GAA's and WAA's maintained through NGAA Project and ARFCW.
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Publications

SPORTS LIBRARY FOR GIRLS AND WOMEN–see inside front cover.

SPECIAL PUBLICATIONS–see inside back cover.

STANDARDS IN SPORTS FOR GIRLS AND WOMEN

Standards in sports activities for girls and women should be based upon the following:

1. Sports activities for girls and women should be taught, coached, and officiated by qualified women whenever and wherever possible.
2. Programs should provide every girl with a wide variety of activities.
3. The results of competition should be judged in terms of *benefits to the participants* rather than by the winning of championships or the athletic or commercial advantage to schools or organizations.

Health and Safety Standards for Players

Careful supervision of the health of all players must be provided by–

1. An examination by a qualified physician
2. Written permission by a qualified physician after serious illness or injury

3. Removal of players when they are injured or overfatigued or show signs of emotional instability
4. A healthful, safe, and sanitary environment for sports activity
5. Limitations of competition to a geographical area which will permit players to return at reasonable hours; provision of safe transportation.

General Policies

1. Select the members of all teams so that they play against those of approximately the same ability and maturity.
2. Arrange the schedule of games so that there will be no more than one highly competitive game a week for any one team or girl in any one sport.
3. Discourage any girl from practicing with, or playing with, a team for more than one group while competing in that sport during the same sport season.
4. Promote social events in connection with all forms of competition.

DGWS STATEMENT OF BELIEFS

We believe that opportunities for instruction and participation in sports should be included in the educational experiences of every girl. Sports are an integral part of the culture in which we live. Sports skills and sports participation are valuable social and recreational tools which may be used to enrich the lives of women in our society.

We believe that sports opportunities at all levels of skill should be available to girls and women who wish to take advantage of these experiences. Competition and cooperation may be demonstrated in all sports programs although the type and intensity of the competition will vary with the degree or level of skill of the participants. An understanding of the relationship between competition and cooperation and of how to utilize both within the accepted framework of our society is one of the desirable outcomes of sports participation.

We believe in the importance of physical activity in the maintenance of the general health of the participant.

We believe that participation in sports contributes to the development of self-confidence and to the establishment of desirable interpersonal relations.

For these reasons, *we believe* that girls and women of all ages should be provided with comprehensive school and community programs of sports and recreation. In addition, they should be strongly and actively encouraged to take part in such programs.

PROGRAM

We believe that sports programs for girls and women should be broad, varied, and planned for participants at differing levels of skill. There should be full awareness of the wide span of individual differences so that all types, ages, and skill levels are considered in the planning of sports programs. In conducting the various phases of sports programs, principles must guide action. These principles should be based on the latest and soundest knowledge regarding

1. Growth and development factors
2. Motor learning
3. Social and individual maturation and adjustment
4. The values of sports participation as recognized in our culture.

Elementary Schools (grades 1-6)

We believe in planned, comprehensive, and balanced programs of physical education for every girl in the elementary program. These should provide experiences in basic movements—for example, skipping and simple dance steps, bending, reaching, and climbing—and in a wide variety of activities which require basic sport skills such as catching, throwing, batting, and kicking.

We believe that intramural sports experiences in appropriately modified sports activities should supplement an instructional program for girls in grades 4, 5, and 6, and that in most cases these experiences will be sufficiently stimulating and competitive for the highly skilled girl. We believe extramural sports activities, if included in the upper elementary grades, should be limited to occasional play days (sports groups or teams composed of representatives from several schools or units), sports days, and invitational events.

Secondary Schools (grades 7-12)

We believe that in secondary schools a program of intramural and extramural participation should be arranged to augment a sound and comprehensive instructional program in physical education for all girls. Extramural programs should not be organized until there are broad instructional and intramural programs and a sufficient allotment of time, facilities, and personnel for new programs.

Colleges and Universities

We believe that college and university instructional programs should go beyond those activities usually included in the high school program. There should be opportunities to explore and develop skills in a variety of activities, with emphasis on individual sports. It is desirable that opportunities for extramural experiences beyond the intramural program be accessible to the highly skilled young women who wish these opportunities.

Forms of Competition

Intramural competition is sports competition in which all participants are identified with the same school, community center, club, organization, institution, or industry, or are residents of a designated small neighborhood or community.

Extramural competition is a plan of sports competition in which participants from two or more schools, community centers, clubs, organizations, institutions, industries, or neighborhoods compete. The forms of extramural competition include

1. Sports days—school or sports group participates as a unit
2. Telegraphic meets—results are compared by wire or mail
3. Invitational events—symposiums, games, or matches to which a school or sports group invites one or more teams or individuals to participate.
4. Interscholastic, intercollegiate, or interagency programs—groups which are trained and coached play a series of scheduled games and/or tournaments with like teams from other schools, cities, or organizations.

International Competition involves players from different nations and provides sports experiences for individuals or groups with exceptional ability and emotional maturity. This type of competition under some conditions could include secondary school girls, but usually it is planned for more mature participants.

Corecreational activities are designed to give boys and girls opportunities to participate on the same team against a team of like composition, provided the activities do not involve body contact. The basis for formation of teams should be to promote good team play. We believe that girls should be prohibited from participating (1) on a boys intercollegiate or interscholastic team; (2) against a boys intercollegiate or interscholastic team; and (3) against a boy in a scheduled intercollegiate or interscholastic contest.

ADMINISTRATION

We believe that certain *safeguards* should be provided to protect the health and well-being of participants. Adequate health and insurance protection should be secured by the institution. First aid services and emergency medical care should be available during all scheduled interscholastic sports events. Qualified professional leaders should ensure a proper period for conditioning of players, a safe environment including equipment and facilities, a schedule with a limited number of games, and similar measures.

We believe that sports *officiating* should be the responsibility of those who know and use DGWS approved rules. Officials should hold current ratings in those sports in which ratings are given.

We believe that the entire *financing* of girls and women's sports programs should be included in the total school budget. It is suggested that income be handled as a regular school income item.

We believe that the *scheduling* of sports activities for girls and women should be in accordance with their needs and that their schedule should not be required to conform to a league schedule established for boys and men's sports.

We believe that excellence of achievement should be given *recognition* and that the intrinsic values which accrue from the pursuit of excellence are of primary importance. We believe that, when awards are given, they should be inexpensive tokens of a symbolic type, such as ribbons, letters, and small pins.

We believe that expert teaching and quality programs generate their own best *public relations.* It is suggested that an effective plan be developed for interpreting the values of the sports program to parents, teachers in other fields, and interested members of the school or college community, including the press. A procedure which has proved successful is to invite key groups to a selection of demonstrations and sports events at different levels, so that they may see effective programs in action.

LEADERSHIP

We believe that good leadership is essential to the desirable conduct of the sports program. The qualified leader meets the standards set by the profession, including an understanding of (1) the place and purpose of sports in education, (2) the growth and development of children and youth, (3) the effects of exercise on the human organism, (4) first aid and accident prevention, (5) understanding of specific skills, and (6) sound teaching methods. Personal experience in organized extramural competition is desirable for the young woman planning to become a leader or teacher of women's sports. The leader should demonstrate personal integrity and a primary concern for the welfare of the participant.

POLICY-MAKING

And finally, we believe that all leaders, teachers, and coaches of girls and women's sports should be encouraged to take an active part in the policy decisions which affect planning, organizing, and conducting sports programs for girls and women. Leaders should make sure that qualified women are appointed to the governing sports bodies at all levels—local, state, national, and international—to ensure that programs are in the best interest of those who participate.

SPORTS GUIDES AND OFFICIAL RULES COMMITTEE INTEREST INDICATOR

The SGOR Committee is endeavoring to broaden its base of personnel and to strengthen its services to *Guide* readers. The purpose of this form is to offer readers an opportunity to join us in meeting this need. Please complete this form and send it to the SGOR Associate Chairman-elect, whose name and address appear on page 14.

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(See page 18 for list of personnel.)

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Campcraft-A Popular High School Course

E. JANE BEALS

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A crackling campfire, hatchets chopping, the aroma of burning wood, turning of the autumn leaves, chirping of birds, warmth of the sun, and the peaceful world of the woods are only a few of the experiences a high school student encounters during a campcraft class. Campcraft has been an integral part of the girls' physical education program for many years. It is conducted as a six-week (30 periods) unit during the senior year. Students are highly motivated and challenged by the learning experiences, including the mastering of basic camping skills.

A wooded area close to the high school has been advantageous to the design of the campcraft unit. The equipment needed is minimal: a few hatchets, knives, and bucksaws are all that are necessary to begin such a course. Kettles and reflector ovens could be added later as the students progress to more advanced skills. Another advantage of this type of unit is its versatility regarding the time of year during which it can be taught; it could be implemented easily as a late fall or early spring activity. Food expenses are covered by a small fee charged to each campcraft student; the remaining cost is provided for through the school's physical education budget.

Class organization is essential to accomplish all the objectives of the course. Classes are divided into squads of five or six girls. A rotating kaper chart is organized and used regularly. The kaper chart might list wood gatherers, food preparers, fire builders, cooks, and clean-up. Although each person in the squad is assigned a specific responsibility, the girls help each other in order to complete the project. It is interesting and sometimes surprising to observe those who excel when given this type of responsibility.

Hiking to the woods dressed in warm clothes, a student begins her classroom experience. One of the first responsibilities of each squad is to choose a fire circle area. The students show pride and interest when choosing and organizing their own home in the outdoors.

Rocks and stones are carefully hunted and arranged into their fire circles. Firewood is collected and neatly separated and stacked according to size for use on cooking days. Logs are often carried extensive distances to be used for seating. Special pains are taken to lash a wash basin, cooking table, towel rack, or anything else that will make their camp site an enjoyable spot. The enthusiasm and pride which develop for the individual camping areas are amazing.

The six-week course content includes the following topics:

1. Selecting camp sites, wood gathering, organizing storage piles.
2. Fire building–tepee, hunter-trapper, log cabin, reflector, hobo stove.
3. Fire safety and conservation of resources–where to build, how to build, and safety principles.
4. Proper use and safety principles of the knife, hand axe, and bucksaw.
5. Lashing projects–square, round, and diagonal lashing.
6. Different types of cookery for different types of fires. These are listed from simple to more difficult utensils:
   A. *Broiler sticks.* – Made from "green" sticks and woven to form a tennis racket design. Toast is made on this utensil as a first project.
   B. *One-pot meals.* – Cocoa, chili, soup, stew, etc.
   C. *"Green" stick cookery.* – Larger sticks are selected and bread twists are made.
   D. *Foil cookery.* – Many variations are possible with this type of cooking. A large bed of coals is necessary for foil cooking.
   E. *Hobo stoves.* – A large #10 tin can is used to make "buddy burners." Trench candles are made from rolled newspaper and dipped into paraffin wax to provide fuel. Frying is done on the bottom of the can, since it is turned upside down for use. Hamburgers, eggs, and bacon are among the many possibilities which are good foods to cook.
   F. *Reflector-oven cooking.* – Baking (principles of reflecting the heat of the fire into this type of oven) produces mouth-watering cookies, cakes, etc.
   G. *Final projects.* – Each group plans a complete meal, or a class meal is planned with each group cooking different parts of the menu. Bean holes are sometimes attempted. Barbecued chicken, etc., become a challenge for many groups. The food for this final project is furnished by each group.
7. Shelter skills–tents and sleeping gear are explored. Although no overnight sessions are connected with the classes taught,

this information is included so that camping skills may be practiced and continued.

8. Trip planning, family camping, primitive camping, and available camping information centers are studied.
9. Camping programs and simple skits are included to complete the spirit of the course.

Once the important basic skills are covered, a typical cooking project might be organized in the following manner:

Preplanning and group instruction—one day
Gathering firewood and laying the fire—one day
Cooking and clean-up—one day
Evaluation and discussion—one day

The camping trend is still increasing in popularity today. Primitive camping, family camping, and camp counseling are based on basic campcraft skills and knowledge. A high school course in campcraft can be an important step in educating the students on this worthwhile recreational activity.

Several good resource books are available for more details regarding skills in camping and campcraft. The following are recommended:

1. Hammett, Catherine T. *Your Own Book of Campcraft.* New York: Simon & Schuster, Inc., 1950.
2. Lynn, Gordon. *The Golden Book of Camping and Campcraft.* Racine, Wisc.: Golden Press, 1959.
3. Ormond, Clyde. *The Complete Book of Outdoor Lore.* New York: Harper & Row, Publishers, 1964.
4. Smallman, Robert. *The Golden Guide to Camping.* Racine, Wisc.: Golden Press, 1965.

Graduate Education in Outdoor Recreation

MILDRED LEMEN

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With the current interest in outdoor recreation, it is imperative that as many people as possible develop a sound philosophy about the use of the out-of-doors as a recreational facility. Therefore, graduate students who have not learned appropriate skills at the undergraduate level should be given the opportunity in the advanced degree program.

A workshop type course could be an effective way of meeting this challenge. By using a team teaching approach, 50 graduate students can be accommodated. Teachers of any subject, and especially elementary teachers, should be encouraged to take this workshop.

Minimum facilities and equipment would be needed. The Outdoor Education Project of AAHPER will provide some assistance. Some universities have already experimented with such a workshop. To offer a better idea of what a course in outdoor recreation would include, the following is an outline of a successful workshop.

The workshop is ordinarily conducted daily from 12:30 to 5:15 for three weeks. An overnight camping trip is required for everyone; on several other evenings the classes meet until 10:00 p.m. While the students invest far more time than required for three semester hours credit, they do not complain, and they enjoy themselves in the outdoors and informal atmosphere.

The objectives of the course are:

1. To teach each person about the outdoors so that he will acquire leisure skills and become a better citizen of the outdoors.
2. To transmit to each person the desire to participate in family outdoor recreation, and in turn, to teach wholesome attitudes toward the outdoors.
3. To instill a desire in each person to "preach or teach" outdoor recreation to other people.

Hopefully each student will influence at least two other people to appreciate nature and to participate in outdoor activities.

In order to accomplish these objectives, the workshop day usually is divided into several parts: lectures and discussions, instruction in skills, demonstrations or films, "on your own time," and time for group projects. There is no set time schedule; this flexibility is responsive to the interest (or disinterest) of the class at any time.

Each student must meet the following minimum requirements:

1. Make a unique, handcrafted name tag from nature materials.
2. Do two whittling projects.
3. Make two nature craft projects.
4. Complete a camp improvement project (with a group).
5. Attain skill proficiency in at least four activities.
6. Do a written report on guiding questions from each day's discussion.
7. Attend all classes.

The lecture and discussion part of the workshop covers the following topics:

1. Outdoor Recreation–objectives, trends, scope
2. Safety–first aid, waterfront, sanitation
3. Nature–importance, activities for school classes
4. Environmental Conservation–water, land, air, fish and wildlife, recreation areas
5. Survival in Wilderness–psychological and physical aspects
6. Hikes–kinds, planning
7. Outdoor Recreation Organizations–National Wildlife Federation, Audubon Society, Scouting, etc.
8. Fishing–history, laws, hints for success
9. Hunting–laws, kinds, safety
10. Water Sports
11. Winter Sports
12. School Camps–objectives, staffing, finance, planning
13. Family Outdoor Recreation–trends, planning.

Many of the students have never participated in outdoor sports at all; therefore, each one is required to attain a proficiency in at least four activities, selected from the following:

1. Spin casting
2. Fly casting
3. Archery
4. Riflery
5. Canoeing
6. Boating

Skills are also taught and practiced in these areas:

1. Firebuilding
2. Outdoor cooking
3. Campsite selection and development
4. Setting up tents
5. Nature crafts
6. Whittling
7. Hiking
8. Campfire programs

Special projects are included in the workshop schedule so that there is a change in daily routine. Included in these projects are a creek hike, a canoe trip, outdoor cooking, and campfire programs. One of the highlights of the workshop is when the class entertains a group of mental patients from a nearby hospital for one day. The students serve as teachers, guides, cooks, program planners, etc., for these people. The patients always have a good time, and the class learns how outdoor recreation can serve as therapy.

Evaluation procedures are the most difficult part of the workshop for the faculty. Nearly every student works hard and completes the assignments. One of the primary distinctions in grades has been the contributions of students to the workshop. Every effort has been made to use the talents of the students to teach skills, provide leadership, and to help plan events.

In the informal outdoor atmosphere, faculty and students learn to know each other well. Classmates learn to know each other, too. Student evaluations of the course have always been excellent; very few have disliked it. The students feel as if they have learned skills and knowledge which they will never forget, and they have found that learning can be fun.

Camp is For The Camper

MARIAN E. KNEER

Miss Kneer is an assistant professor of physical education at the University of Illinois, Chicago Circle campus. She received her B.S. and M.S. degrees from Illinois State University, Normal, and her Ed.S. degree from the University of Michigan, Ann Arbor, where she is presently completing work on her Ph.D. degree. She has spent 17 years as a Girl Scout established camp director.

"Let the match burn a bit before putting it in the fire!" "Hold the fish with your left hand!" These are statements made by the mature counselor or parent who realizes that camp is experiencing and that the *doing* part of camping is where the real fun lies. Learning results from the interaction of the child with the challenge of nature.

It is not difficult to promote the camping experience to parents. Often, motives for sending Johnny to camp include wanting to increase his self-reliance as well as promote physical skills. Brochures heralding the glories of camp claim that camping activities will help the child to become stronger physically, more capable socially, more able to assume citizen responsibilities as a future adult, more stable emotionally, and more sensitive spiritually. What parent wouldn't find the money to send his child to camp if the service really produced what it purports. If a service company is called to repair the furnace and fails, the buyer expects redress. Unfortunately, in educational ventures such as camping, it is more difficult to assess the failure. Too often, the camp believes that if it provides the activities, the values will accrue automatically; if they do not, it is then assumed that there is something lacking in the camper. Unfortunately, camps often do not recognize that this failure is a result of counselors who, insistent upon showing the camper how to perform certain skills, deny the camper the experience of doing.

Will the physical objectives be reached if the camper is not challenged to hike, to backpack, or to arrive at an attractive outpost camping site if he is not transported there? Maybe the hiking or backpacking would provide the adventure that the camper has never experienced. "Camp *is* for the camper!" Who should paddle the canoe? Who should set up the tents? Who should do the cooking? Who should build the fire? Were not these skills prerequisites for the outing? So why does the counselor do them? Using staff skills will help make the trip more successful. Successful based on what criteria? The camper's? the parent's? The counselor's? The camp's?

The criteria should be based on the "sales pitch." Perhaps the trip will be a little late, the tents may not be pitched as neatly, the fire may take longer to get started, and the food may not taste as good. Does it matter? It is important for the campers to return home excitedly expressing their successes as well as failures. These experiences, fun or flop, were theirs to assess and to enjoy. Physical development requires activity, and camp can provide a great potpourri of experiences, from walking, to swimming, to chopping, to climbing.

Another camp claim is that children will become more mature in terms of assuming responsibility. This will only occur if the camp is for the camper! If the child goes fishing, it should be with the understanding that he will learn how to fish, not merely hold the pole. His skills should range from baiting the hook, to cleaning and frying the fish. If the camper wishes to keep a snake or preying mantis temporarily, he should be taught how to house and feed it. This experience must be his, not the counselor's. This is social responsibility in a child-sized bite. If the camp is a "child's community," as is so often ballyhooed, then let the child assume the responsibilities of the community.

These opportunities for assuming responsibilities should not be pseudo activities which relegate the camper to menial "assistance"; rather, they should involve the child so that he is taught how to do the activities, how to weigh a decision, and how to select activities that will satisfy his interests. The author has seen 10-year-old campers plan and execute their entire two week program. Camp is the magnificient learning environment that it claims when the campers are: checking books for cookout ideas, discussing the merits of a hot dog versus a "sloppy joe," discussing what to do about their restlessness during rest hour, and when campers are allowed the freedom to be individuals.

Emotional development is a much promoted, though elusive concept. Emotional health is fostered by affection, security, recognition, and new experiences. Provision for these needs are just as important as provision for physical needs. If the camp shields the child from these experiences, its services will not result in improved emotional health of the child.

Spiritual development is not an automatic by-product of the camping experience. It is not "taken care of" merely by providing services. Spiritual development is fostered through numerous camp activities, from crafts to nature. The wonder of growth may produce more spiritual sensitivity then several hymns. The realization of how animals are protected by coloring, speed, or sound provides the child with an opportunity to know what God's love is all about. These are activities and moments that the counselor must allow the child to

experience and think through if spiritual sensitivity and growth are to be benefits of the camp.

Camp is undoubtedly one of the most resourceful and challenging learning environments that a child can experience. The key to unlocking these resources is not the presence of a camper in a camp with adults, but the presence of a camper in camp with adults who realize that camp *is* for the camper!

Day Camping for the Mentally Retarded

CHARLES E. LUTTRELL

Charles Luttrell received his B.A. degree from Bob Jones University, Greenville, S.C., and his M.A. from the University of Florida, Gainesville. He is presently an instructor in physical education at Bob Jones University; he directed Camp Spearhead for two summers.

Camp Spearhead is a day camp for mentally retarded children located in the Paris Mountain State Park, Greenville, South Carolina. In its third year of operation, over 160 children attended for one of the four two-week sessions. The children were picked up in the city at 8:30 AM and returned at 2:30 PM. They ranged in age from 8 to 24. Many of the children were not only retarded, but also physically handicapped.

In meeting the recreational needs of all these children it was necessary to provide for individual instruction and a wide variety of activities. It is not uncommon for summer day camps to have one counselor for every 20 to 30 children; however, mentally retarded children require closer supervision. With paid counselors and volunteers, our camp achieved a ratio of one-to-three. In some cases, a one-to-one ratio was necessary for those children who were severely retarded or in the low trainable group. The physically handicapped were also on a one-to-one basis.

The day camp program was organized to give the children an opportunity to participate in as many different activities as possible. It consisted of hiking, archery, boating, swimming, bicycling, skating, crafts, tumbling, a track meet, low-organized games, a cookout, fishing, horseback riding, nature study, and folk dancing. Five of these activities will be discussed in detail.

The day camp was held in a state park where there was a lake for boating, fishing, and swimming; a cool mountain stream for wading; and mountains for hiking. Hiking was a new experience for most of the children and was organized with their physical rather than mental limitations in mind. The three major types of hikes held were those on relatively flat ground, hikes up and down a small mountain, and a "mountain climber's" hike. The latter was up a mountain path that led to a waterfall higher than Niagra. Although this hike was so steep in certain places that ropes had to be used, it was not as dangerous as it may sound. A severely retarded boy enjoyed it so much that he took the hike three times during the summer.

Boating was offered last summer for the first time. Only one camper and one or two counselors were allowed in a boat at a time.

Both campers and counselors were required by law to have life preservers. Instructions in safety and the skill of rowing were given to each camper when it was his time to row. A general rule at camp for the counselors stated that they were not to do anything for a child that the child could do for himself if given the proper instructions and therefore, the campers did most of the rowing.

Wednesday of each week was cookout day. The children gathered wood and helped to start a large fire. Each child was responsible for preparing his own food, which was usually hot dogs. Allowing opportunities for these children to provide for themselves proved to be one of the most satisfying experiences of the summer.

All of the campers enjoyed archery and had some degree of success. A field archery range was located in the park and various animal targets had been left on the target butts by weekend archers. The only other equipment necessary were the bows and arrows. Safety procedures were demonstrated and stressed over and over by the counselors. The most important thing to watch for was the child who wanted to shoot one arrow and retrieve it immediately. The campers were taught and required to use proper techniques each time they shot.

The track meet included such races as the toe-sack race, backward run, three-legged race, stilt-can race, and the wheelbarrow race. The track consisted of three 30-yard length lanes. First, second, and third place ribbons were given as prizes. Each child, therefore, was given a ribbon for each race. They did not seem to care if the ribbon was blue, red, or white. Failure is a common feeling among retarded children and winning these ribbons did much to bolster their confidence in their ability. The disadvantages of extra planning and the difficulty of administering the track meet seemed minimal in view of the enjoyment that the children received.

Mentally retarded children can participate in every activity generally offered in a day camp program. They may not achieve the levels of performance of "normal" children, but they will surprise you by how much and how fast they can learn.

Tripping: Organized Adventure

LINDA L. BAIN

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A woodland adventure is a masterpiece of hidden organization! There is a subtle substructure of planning and ability beneath the smell of wood smoke and the deep silence of star-watched sleep. This quiet efficiency is achieved only by the anticipation and solution of many organizational problems.

A camping trip, whether sponsored by a school, summer camp, or informal group, involves the same basic problems. However, the size of the group, age of the campers, complexity of the trip, amount of time for preparation, money and equipment available, and philosophy of the group may dictate differing solutions to these problems. Such differences do not preclude a basic framework of procedures for all camping trips. It is the purpose of this article to discuss the problems encountered in planning and conducting an efficient camping trip and to outline the responsibilities of the sponsoring agency, the trip leader, and the campers.

Setting the Goal

Sponsoring Agency

1. Define the limits necessary for reasons of cost, available transportation, progression of trips for various groups, etc.
2. Within these limits, discover possible sites and prepare a list of alternatives.
3. Thoroughly orient leaders to trip possibilities.
4. Give leaders adequate training and preparation so that they are competent to lead any of these trips and feel confident to do so.

Trip Leader

1. Communicate the limits and the possibilities to the campers.
2. Clarify advantages and disadvantages of various sites as well as the camper qualifications these trips require.

Campers

1. Suggest any additional alternatives.
2. Select site and duration of trips.

The major concern of the agency in this process is to be certain that the possibilities are thoroughly explored. An overnight site for young children need only be distant enough to be visually and audibly separate from the usual environment. Older groups normally travel further to the camp site with the means of travel often providing the unique aspect of the trip. The State Department of Parks and Recreation or the State Department of Conservation are good sources of information about the resources of the area.

During orientation to the trip possibilities, it is desirable for trip leaders to see alternatives before presenting choices to campers. Lack of familiarity with a site can result in insecurity about that choice, which will cause biased presentation to campers. The duration of the trip is also of concern and varies with age groups. At least one full daytime period should be spent on a trip in order to enjoy it.

The means whereby campers select the site will vary depending on the overall organizational pattern. In decentralized camping, the choice is made as a group decision by campers who function as a unit. In centralized camping, the description of a trip can be posted and individual campers allowed to sign up if interested. By any method, the selection of the goal ought to be a camper decision based upon awareness of alternatives.

Preparation for the Trip

Sponsoring Agency

1. Secure permission for use of the site.
2. Arrange transportation in accord with state laws and American Camping Association standards.
3. Secure parental permission for out-of-camp travel.
4. Arrange that insurance coverage for campers and leaders extends to trips.
5. Secure necessary equipment.
6. Devise a system for securing food for trips and for distribution in small quantities.
7. Check menus and equipment lists for completeness and accuracy.

Trip Leader

1. Submit requests for transportation, detailing the number of persons, time of departure and return, destination, equipment to be transported, etc.
2. Provide resources and leadership for the planning of menus in terms of nutrition, cost, preservation, weight, bulk, and methods of cooking.
3. Compile food lists itemizing specific ingredients needed for the menu. Order or buy food.

4. Compile equipment lists and arrange for securing equipment.
5. Help campers ascertain their training needs; give leadership to this training; and assess the attainment of these qualifications.

Campers

1. Plan menus and equipment needs.
2. Determine skills and knowledge necessary for trip and plan time to achieve them. These usually include campcraft skills and an understanding of one's role as a functioning member of a group. Special training should be given to the camper leader.
3. Pack food and equipment for trip in manner appropriate for means of travel.

Camper preparation for the trip is vital. Sufficient time should be allowed for an assessment of camper qualification by means of tests, checklists, subjective judgments, or self-assessment. Problems sometimes arise in decentralized camping when one member of a permanent group does not meet qualifications for the trip selected. Under such circumstances, the camper might be permitted to go with modifications in his role if such action will not jeopardize the safety of the individual or the morale of the group. In addition to campcraft skills and knowledge, a camper needs psychological preparation for a trip to allay his fears about the unknown and to direct his excitement into purposeful action.

Campers should be allowed to participate as fully as possible in this stage, for a major part of the educational value of a trip lies in preparation. In addition to planning menus and equipment, older campers may be able to assume the responsibility for listing food ingredients, buying food, securing site permission, etc.

The mechanics of the preparation phase of a trip are complex and can be a burden to the trip leader. Every effort should be made by the agency to facilitate this aspect of the job. Although standardized forms may not be an attractive solution, menu planning sheets, equipment checklists, and transportation request forms may actually reduce the planning time and decrease the likelihood of omissions. It is useful for the agency to provide an experienced person who checks such plans for appropriateness and completeness. Although this necessitates doing the planning farther in advance and adds a step to the process, it serves as a "security check" for the trip leader.

The Culminating Event

Sponsoring Agency

1. Be certain leaders can navigate the trip accurately.
2. Provide a minimum of two adults with any trip, at least one of whom should be 21 years old and have training.

3. Determine emergency procedures and train staff in this regard.
4. Secure reports of weather or other potential hazards and take action if necessary.

Trip Leader

1. Immediately before departure, do last minute check of campers, arrangements, and emergency procedures.
2. During travel to site, be directly or indirectly responsible for navigation and pace-setting.
3. Give leadership to the setting up of the camp site.
4. Oversee the shelter, food, and sanitation aspects of the trip to insure health standards.
5. Give leadership to evaluation after completion of the trip.

Campers

1. Upon arrival at camp site, explore the area.
2. Determine the arrangement of the camp site: location of cooking area, tents, etc.
3. Divide group responsibilities to accomplish these tasks: constructing cooking area, gathering wood supply, pitching tents, setting up sanitation facilities, and storing and preserving wood supply.
4. Prepare meals and conduct any other survival activities.
5. Plan, either individually or as a group, other activities indigenous to the camp site.
6. Upon return, be responsible for unpacking and cleanup.
7. Evaluate the success of the trip.

It is difficult to capture in a list the atmosphere of an adventurous and enjoyable camping trip. One can only identify the sources of joy as being a new experience, a sense of freedom from routine, and the satisfaction of providing for one's own survival. The key to this culminating experience is the tone or pace set by the trip leader and the degree of self-direction experienced by the campers.

Occasionally, a trip leader who has been to the site before may neglect to allow campers to explore, and thus deprive them of the fun of determining for themselves how to set up the camp site. The setting up process requires skillful guidance to enable the group to finish the task before they tire of it. Some jobs, like gathering wood or pitching tents, require the whole group while other jobs can be handled by division of responsibilities.

Once the outpost camp has been created, the group begins a style of living of its own design. They decide for themselves when they want to eat and then calculate the time needed to prepare the food. Camper leaders oversee the preparation under the guidance of the trip leaders. They share a spontaneous fun made possible by

efficiency in carrying out the essential survival tasks. Inexperienced trip leaders commonly confuse a relaxed, spontaneous schedule with inefficiency. Campers who are not assisted in completing essential tasks successfully in a reasonable amount of time will not experience the real joy of the trip and will find the trip unsatisfying. Another major cause of disappointment for some campers may be a feeling of repulsion at unsanitary conditions. Camping and filth are not synonymous. Every provision should be made to maintaincleanliness by bringing a change of clothing, covering food, providing water for washing, etc.

Conclusion

The division of responsibilities used in this article may seem somewhat artificial and may not be applicable to all situations. For school camping trips, the teacher may serve a dual function as both the representative of the sponsoring agency and the trip leader. In informal trips, campers may fill all related roles. The crucial factor in any situation is that the organizational steps described be accomplished.

A camping trip presents an overwhelming challenge – an event requiring ultimate organization and yet seeking to give the satisfactions of a relaxed, spontaneous happening. At first glimpse, these two may seem in opposition. But the seasoned camper knows that the joy of camping is the adventure of meeting the challenges of the outdoors *and* being capable of mastering time.

ESTABLISHED CAMP EQUIPMENT LIST

UNIT____ PATROL____ DAY_____ DATE _____

LEADER _____ NUMBER ____ FOOD READY ____ AM PM

SITE_____ APPROVAL_____ MEAL _____

COOKING	CAMPCRAFT	MISCELLANEOUS
____Baking pans	____Buckets	____Aluminum foil
____Bowls	____Bucksaw	____Brown soap
____Mixing	____Gloves	____Canteens
____Cereal	____Grate	____Charcoal
____Can opener	____Griddle	____Chore boy
____Cookie sheets	____Ground cloths	____Cookbook
____Cups	____Hatchets	____Craft supplies
____Dutch oven	____Knapsacks	____Dipping bags
____Forks	____Rakes	____Dishpans
____Long	____Rapid digger	____Dishwater pail
____Table	____Reflector oven	____First aid kit
____Frypan	____Rope or Twine	____Fishing equipment
____Kettle	____Shovels	____Hay for haypole
____Lids	____Sickles	____Insect spray
____Knives	____Tents	____Kotex
____Table	____Tent stakes	____Lanterns
____Paring	____Trench candles	____Matches
____Butcher	____Pocket knives	____Mosquito nets
____Ladle		____Opportunity sticks and charts
____Mess kit		____Packbaskets
____Pancake turner		____Packboards
____Peeler		____Red water cans
____Plates		____Roll-up tables tops
____Popcorn popper		____Sponges
____Salt and pepper		____#10 Tin cans
____Spoons		____Silver
____Table		____Hands
____Tea		____Hobo
____Wooden		
____Mixing		
____Tongs		

SAMPLE TRIP PLANNING FORM I

ESTABLISHED CAMP EQUIPMENT LIST – Continued

FINAL CHECKOUT	EQUIPMENT TO BE BORROWED	
____ Takeout, pickup, water arrangements	ITEM	UNIT
____ Post list of camper's packing and what to wear		
____ First aid kit checked by nurse		
____ Halazone tablets		
____ Medications picked up		
____ Health checkup of campers		
____ If hiking– First aid kit		
____ Special instructions to handyman		
____ Visiting staff		
____ Substitutes in camp		
____ Tent flaps down		
____ Equipment convered		
____ Petty cash		

SAMPLE TRIP PLANNING FORM – CONTINUED

ESTABLISHED CAMP COOKOUT PLANNING SHEET

UNIT_____ PATROL _____ DAY _____ DATE _____

LEADER _____ NUMBER ____ FOOD READY ___ AM PM

SITE_____ APPROVAL_____ MEAL_____

MENU	FOOD	EQUIPMENT
		____Aluminum foil_h__r ____Brown paper bags ____Chore boys ____Dish towel and rag ____Garbage bag ____Matches ____Napkins ____Newspaper ____Paper towels ____Plastic bags (small) ____Plastic bags (large) ____Soap ____Straws ____Thermos ____Toilet paper ____Wax bags ____ _____ ____ _____ ____ _____ ____ _____ ____ _____ ____ _____

SAMPLE TRIP PLANNING FORM II

Backpacking on the Appalachian Trail

JACK L. STEVENSON

Dr. Stevenson received his B.S. from Davidson College, North Carolina and his M.A. and Ph.D. from Indiana University in Bloomington. He is active in the American Camping Association and has led many trips on the Appalachian Trail.

The trip seemed like a winner from the very beginning! Each year at camp we plan a "prize trip" toward the end of their stay for the counselors-in-training, called Counselor Aids or CAs. Nearly all are 16 years old and entering their junior year of high school.

One prize trip for the six-week session CAs was a three-day hike on a portion of the Appalachian Trail which runs through The Smokies, or the Smokey Mountain National Park.

It was a winner in part because each girl was carefully selected from among the several former campers who applied for the trip. The CA counselor was also carefully selected. She had been living and working with this group of girls for over two weeks when she presented to them the possibility of the planned trip. She and I, together with our Program Director and our male hiking and tripping guide, had made the preliminary plans and set the dates. Several books and maps had been especially helpful to us in making final plans.[1]

The counselor made assignments to small groups of the girls to read and study various sections of the books and to report to the others information about the Appalachian Trail. Considerable careful planning is necessary for a safe and enjoyable trip on the Appalachian Trail.

The guide consulted with the girls about equipment and supplies. The camp dietitian helped them in the planning of meals. I gave them "helpful hints," such as necessary clothing and the careful selection of sturdy shoes (or preferably, over-the-ankle boots). In any case, footwear should be worn for several miles *before* the trip to insure that they fit and are well broken-in.

Backpacking means *traveling light* and all planning has to be done with this in mind – even down to the squeezing out of half the contents of a small toothpast tube, then sharing the remaining half-tube among several friends! Lipstick, handcream, and other feminine "necessities" can be left at camp. Small items add up, and an extra pound carried 10 or 20 miles by backpack is better forgotten. "Do you really need that?" was a key phrase the girls asked each other over and over. Between 20 and 25 pounds is the

maximum backpack weight for average size girls and women who hike the Appalachian Trail. Of course, in addition to her own personal gear, each girl has to carry her share of the group's food and equipment.

During the drive to the Smokies we went over our plans verbally to be sure we had thought of everything. There are no grocery or corner drug stores on the trail! The guide had seen that each pack and frame had a tie cord for every pocket; that the padded shoulder straps were in good condition; that the "belly strap" was attached; that the pack was lined with a plastic garbage can liner.

The guide also made certain that the group gear was sufficient and in good condition. Included were two 12 ft. x 12 ft. poly tarps for emergencies, as well as canteens for water, plastic bags for litter, and cook gear for the group. We carried two lightweight gasoline stoves and fuel for these, in case weather prevented our using an ax for cutting up some of the "down wood" near our camping locations. The camp nurse had carefully packed our first aid kit, including moleskin for sore feet, two 3 inch stretch bandages, and a variety of medication that we might need.[2]

Each girl had packed her own gear: plate, spoon, and fork; pocketknife; poncho; change of underclothing and socks; small flashlight; a heavy cotton sweatshirt (preferably with hood attached for cool nights); a change of jeans or slacks; and a long sleeve shirt. A lightweight sleeping bag was packed along with a few light personal items.

The menus had been planned with care. Dehydrated and freeze-dried food and nonperishables were selected to keep the weight low. Noon meals required no cooking, allowing us to stop wherever we desired along the trail for lunch and rest. The basis ingredients for each meal were carried by one individual, thus only one backpack had to be opened and there was no need to root around in several packs for odds and ends of a meal.

A basic staple which was quite helpful was "gorp." Gorp is a mixture of candy covered chocolate pieces, peanuts, and dry cereal of less than dime size. It provides quick energy, fills empty spots in hungry stomachs, and has the advantage of being easily packaged and passed in a plastic bag. "Pass the gorp!" became a familiar cry on the trail, and no pack needed to be opened nor a full stop made.

At the Oconoluftee Visitors Center just inside the Smokey Mountain National Park, we made a last rest stop. This was where we obtained our required fire permit for the trail, and registered our group in case we needed to be contacted in an emergency. The car, with our 13 packframes tied to the luggage rack, carried us up and over Newfound Gap and on down toward Cade's Cove, a family camping area deep in the park. There we moved from wheels to feet

and shouldered our packs for the beginning of our hike. Care in advance packing made pack strap adjustments few, allowing steady progress up the mountain. From Cade's Cove, the hike up to Spence Field was about 5.2 miles of moderate but steady climing – a new and difficult experience for these girls. Moans of "Where's the bus?" and "rest stop!" were frequent, but we moved along well, with the slower paced girls in front so they would not be pushed, or pulled, too fast. The guide and I took turns throughout the trip at the head and end of the line.

Though we had made plans to hike to Spence Field, we discovered from hikers coming off the trail that the shelters there were already full. (It is estimated that some 40,000 hikers backpack on these area trails annually.) Therefore, we changed our plans. This meant that we would miss that magnificient mountain, "Thunderhead," but we also saved 4.61 miles by hiking on to Russell Field. This reduced our total mileage for the planned hike from 20.97 miles to 16.36 miles. It proved to be quite enough for those backpack beginners in a 52-hour stretch! As it turned out, four groups, totaling 28 persons, spent the night at Russell Field at a shelter with 15 rat-wire mesh bunks. Some slept on the floor inside the strong wire fence built wall-to-wall and floor-to-ceiling to keep out the black bears of the Smokies. Four brave souls stayed on the ground just behind the shelter – after putting their packs and *all* food inside the shelter as protection from bears.

The bears along the trail very seldom bother persons, but they *will* drag away packs that contain food, as many a novice hiker has learned.

While we prepared supper and ate, we chatted with members of the other three groups. This is a dividend of hiking the trail. After supper and cleaning up our dishes, we got our bedding ready for the night. Before bedtime we took a sunset hike, with an added "extra" of picking wild ripe blackberries and watching deer at play. We returned to the shelter and turned in about 9:30. After our strenuous and long day, camp seemed 3,000 miles away.

We awoke about 6:15 the next morning to the sound of the guide snapping sticks to build a fire. The girls assigned to duty prepared breakfast. The coffee tasted especially good in the brisk morning air! We cleared our own trash as well as some left by earlier hikers who were careless. Campers and students are usually willing and eager to reduce pollution by packing out more than they pack in. We said goodbye to our new friends, shouldered our packs, and started out for Birch Spring Shelter, 6.58 miles away. Hiking was easier this day because some of it was fairly level and some downhill – quite a change from our uphill trek of the day before. We stopped to rest, to

much on gorp, and to apply moleskin to foot blisters which began to form.

As we made our way, enjoying the isolation and breathtaking views of mountains and valleys around and beneath us, enthusiasm was high. We were accomplishing a difficult but enjoyable task. We seemed to belong to the mountains, and though we were a group of hikers, the panoramic views made us feel very small and we were alone with our thoughts.

We arrived at Mollie's Ridge Shelter after 4.13 miles and about three hours. We were disappointed when we found that the ample spring seemed to be contaminated by a great number of bag worms. We had used most of our water, so when we set out again, we rationed the remaining two full canteens. At our lunch stop in a grassy glen, we each had only two or three swallows of water even though cheese, crackers, bread, and salami made a thirsty menu. A short rest followed lunch; then we started out again for Birch Spring, with 2.45 miles to go. Muscles began to ache again, but the girls pushed along at a steady pace. Hikers had told us the water at Birch Spring was plentiful and cool. To quench our thirst, we licked tart fruit drink powder and munched on Sourwood tree leaves when we could find them. When we finally arrived at Birch Spring after half a day of hiking, we gathered at the pure running water spring and drank our fill. Water never tasted so good!

After resting aching muscles for a time, the supper crew went to work. After supper, six of our group hiked the 1.37 miles to Shuckstack Mountain. From its fire tower, 4,020 feet high, the views were breathtaking: back toward Clingman's Dome, over Fontana Dam and Lake, and into the Nantahala National Forest. The sunset was a magnificient spectrum of colors. We returned in darkness, amazed at the sights and looked forward to the trip there the following day. Singing around a warm roaring campfire with everyone at the shelter was a satisying way to end another exciting and adventuresome day.

The next morning, after breakfast at 6:30, we packed and left around 8:30 after more goodbyes to new/old friends. We hiked to the base of Shuckstack Mountain, and then proceeded to the tower with anticipation. This clear day afforded us many beautiful views. We sat or stood on the steps and took in the scenes for 20 or 30 minutes ". . . On a clear day we could see forever . . ."

We then began the descent to Fontana. It was all downhill, but the girls soon discovered that the 3.29 miles of steady descent with pack caused more aching knees and other sore muscles than those which were used in climbing or walking on level ground. The last half mile seemed like a 40-yard dash.

It was an exciting trip – a winner *all* the way. Not everyone reacted to the Appalachian Trail in the same way. Most were elated

and exhuberant; some were relieved; others just tired. All of us learned something about ourselves, about each other, about national parks and trails, and about the glorious mountains which we had climbed and conquered – and which had become a part of our very being.

REFERENCES

1. The Appalachian Trail Conferences, Inc., 1718 N St., N.W., Washington, D.C. 20036, publishes a number of useful pamphlets and booklets. We used:
   Trail Manual for the Appalachian Trail. 6th ed. Publication No. 1, 1966. 49 pp.
   The Appalachian Trail. 7th ed. Publication No. 5, 1965. 46 pp.
   Suggestions for Appalachian Trail Users. 6th ed. Publication No. 15, 1962. 35 pp.
   Of particular help is the detailed, almost step-by-step *Guide to the Appalachian Trail In Tennessee and North Carolina, Cherokee, Pisgah, and Great Smokies.* 2d. ed. Publication No. 24, 1967. 346 pp. (plus 3 foldout maps).
2. CHAPPEL, WALLACE EDWIN. *When You Go Trail Camping.* Nashville, Tenn.: General Board of Education of the United Methodist Church (P.O. Box 871, 37202), 1968. 96 pp. (including a brief but select annotated bibliography on pp. 71-73 and 21 pp. of appendixes on first aid, health, and safety).

Whitewater Canoeing

GORDON E. HOWARD

Dr. Howard is a graduate of the University of North Carolina, Chapel Hill, and received a Ph.D. from the University of Michigan, Ann Arbor. He is presently assistant professor in the Department of Recreation and Parks Administration at Clemson University, Clemson, South Carolina. He has served as director of the annual Chattanooga River Canoeing Workshop.

Whitewater canoeing can be considered as both an old and a young sport in the United States. Early explorers borrowed the canoe from the Indians to penetrate the nation's wilderness and to hunt and trap. When adequate alternative means of transportation developed, the canoe became a pleasure craft primarily used on flat water. The Europeans adopted and modified it for river running. Americans have only rediscovered whitewater canoeing during the past 20 years. World popularity of this sport has increased to the point that it will be included in the 1972 Olympics. Europeans now dominate the international competition, but the American team will be a threat in the Olympics.

Whitewater canoeing is a highly rewarding outdoor sport. It offers:

1. The beauty of the nation's canoeable rivers. What better way to see a river than by being a part of it? The canoeist is reunited with nature.
2. The thrill of plunging down a rapid.
3. The advantage of being a family sport.

There are several canoe and kayak designs to choose from. Most beginners learn in the open canoe. This canoe should have a shoe keel or no keel at all. It has the disadvantage of shipping water when plunging through large waves. To eliminate shipping, decked canoes were developed. Decked canoes come in two styles, C-1's for solo paddling and C-2's for tandem paddling. These craft resemble kayaks. However, close examination will show that the bow and stern are higher than any point in between, the paddler kneels rather than sits, and the paddler is restricted to the use of a single-bladed paddle in competition. The C-1's and C-2's are 10 inches wider than the kayak. The kayak is a decked boat, but the cockpit is the highest point on the deck. The paddler kneels and use a double-bladed paddle.

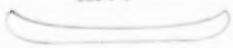
CANOE KEEL STYLES

KEELLESS

SHOE KEEL

"T" KEEL

CANOE AND KAYAK DESIGNS



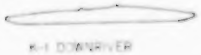
OPEN CANOE

C-1 SLALOM

C-2 SLALOM

C-2 DOWNRIVER

K-1 SLALOM



K-1 DOWNRIVER

Decked canoes and kayaks come in several models. Downriver boats are made for speed and good tracking (running in a straight line). For this they sacrifice some maneuverability. Slalom boats are made for agility and sacrifice some speed and plenty of tracking to achieve this goal. Whitewater canoeists generally prefer the slalom boat for pleasure use because its design allows them to play in the rapids, which is the raison d'etre of whitewater canoeing.

This canoe was a total loss because the owner canoed alone on an unfamiliar river.

The interested beginner should not buy a canoe and strike out on his own. As in swimming, whitewater canoeing alone is dangerous and against the safety codes of most canoe clubs. Moving water generates sufficient pressure to destroy the best canoe in seconds and crush unwary canoeists. Also, there are many preferences in equipment with the end result that hasty buyers often must sell out at a loss and start again.

To participate in this exciting sport, contact a member of your local canoe club. Information about clubs may be obtained from the

organizations listed below. Canoe clubs provide an opportunity to determine the extent of one's interest in the sport, to get basic instruction, to learn about equipment, and to find the most suitable rivers in the area.

BOOKS FOR BEGINNERS

McNAIR, ROBERT E. *Basic River Canoeing.* Martinsville, Ind.: American Camping Association, Inc., 1968. $1.50.

URBAN, JOHN T. *A White Water Handbook for Canoe and Kayak.* Boston: Appalachian Mountain Club, 1969. $1.50.

NATIONAL CANOEING ORGANIZATIONS

American Whitewater Affiliation – HAROLD KIEHM, 2019 Addison St., Chicago, Ill. 60618.

American Canoe Association – EVERETT THOMAS, National Treasurer, P.O. Box 144, Glendale, R.I. 02826.

United States Canoe Association – CHARLES MOORE, 6338 Hoover Rd., Indianapolis, Ind. 46260.

Try Cooking Something Different!*

BETTY VAN DER SMISSEN

Dr. van der Smissen received her degrees from the University of Kansas and Indiana University. She is presently associate dean for Graduate Study and Research, School of Health, Physical Education, and Recreation at Pennsylvania State University. Dr. van der Smissen is active in the American Camping Association and has conducted many campcraft workshops.

Dutch Oven Cookery

MENU

Roast Apple salad
Carrots Potatoes Cake

Food items and quantities (for 8)

2½-3 lb. roast
2-3 small onions
salt and pepper
8 medium potatoes
8 medium carrots
¼-½ lb. butter
4 medium apples
1/3 lb. dates
½ cup mayonnaise
1 cup miniature marshmallows
½ cup chopped nuts
1 large box cake mix or ingredients for cake

Equipment

2 Dutch ovens
bowl to mix apple salad (mix cake in bowl first)
knife to pare vegetables and apples)
8 forks, cups, plates
mixing spoon
ax or saw
matches
shovel and pail (fire control)
dishwashing equipment
paper towels and napkins

RECIPES

Roast With Carrots in Dutch Oven

Sear roast. Add salt and pepper, small onions. Place pared potatoes and carrots around roast. Add 1 to 1½ cups water. Heat. Cover with hot lid. Bake until done.

*Adapted by permission from *A Leader's Guide to Nature Oriented Activities* by Betty van der Smissen and Oswald Goering, © 1965 by Iowa State University Press, Ames, Iowa.

Apple Salad

Cut up 4 medium apples, together with dates and marshmallows. Add nuts. Mix with mayonnaise.

Cake

Mix cake as indicated on package. Place in greased cake tin. Put in Dutch oven either on inverted pie tin or on small rocks, so that it is not directly on bottom of oven. Close oven and bake. For variation put applesauce on the bottom of the cake pan and pour gingerbread batter over it and then bake.

HINTS

The best Dutch oven is made of cast iron. It is three to four inches deep and has a flat, snug-fitting lid with a turned-up rim which serves to retain coals placed on top. Three stubby legs support the oven, allowing air to circulate underneath to keep the coals hot.

For roasting and baking, all of the heat should be provided by coals. It is important that the oven be at the right temperature, which can only be determined by experimentation and practice. The most common error is to have too much heat rather than not enough. Place the oven on hardwood coals raked out from the fire. Top heat is provided by placing coals on the lid.

For all cooking purposes except baking, the food is placed directly in the Dutch oven. Baking may be done this way but many prefer to place the food to be baked in a separate pan and then put it in the Dutch oven.

When using the oven for moist foods the first few times, grease lightly to prevent rusting until a film forms inside the pot. After use, wash the oven in soapy water, rinse in near-boiling water, and set out to dry. Avoid scouring with cleanser or steel wool since this removes the protective film.

Reflector Baking

MENU

Sliced ham baked with sweet potatoes
and pineapple slices
Cabbage salad
Cherry pie

Food items and quantities (for 8)

2½ lbs. canned ham or equivalent
1 #3 can sweet potatoes, or fresh
12 slices pineapple
1 small cabbage
1 can sweetened pie filling
½ lb. butter
salt
pepper

1 cup brown sugar
½ cup salad dressing
2 cups prepared biscuit mix

Equipment

2 reflector cake pans (for ham)
2 pie tins
2 bowls or pots for mixing
2 mixing spoons
knives for paring and cutting
2 reflector ovens
paper napkins and towelling
can opener
ax or saw
matches
pail and shovel
2 pot holders or gloves
8 plates, cups, forks, knives
dishwashing equipment

RECIPES

Ham and Sweet Potatoes

Lay ¼" slices of boiled or canned sweet potatoes in greased pan. Alternate with ham or equivalent. Sprinkle generously with brown sugar and butter chunks. Add pineapple slices. Bake before a moderate fire until thoroughly heated and brown sugar begins to made a syrup.

Cabbage Salad

Cut cabbage into bowl or pot. Mix in salad dressing. Serve. To "dress up," add 1 cup miniature marshmallows and a small can of crushed pineapple.

Cherry Pie

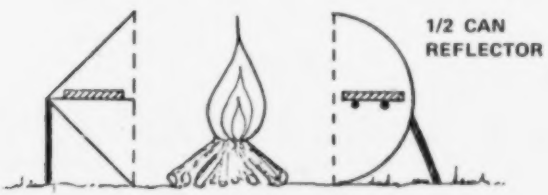
The quickest way to make a pie is to use biscuit mix or pie crust mix for the crust. Moisten with water or milk and put in a greased pie tin. For filling, use cherry pie filling or sour red cherries, to which must be added 2 tablespoons of tapioca for thickening and 1/2-2/3 cup sugar to sweeten. Bake pie "open face," or make sufficient dough to have a top. If a top is used, sprinkle with melted butter and sugar.

HINTS

For reflector baking, one must have a fire bank, fire, and a baker. The fire bank may be constructed on a semipermanent basis by using flat stones or green logs supported by a dirt bank or logs. A temporary fire bank may be made by placing another baker across from the first. A reflector of heavy foil may also be made. The fire bank should face the wind so that flames and ashes will not be blown into the food in the baker.

Build the fire as high and wide as the baker you are using. If the fire is too low, the food on the bottom of the baker will burn before the food on top is cooked; if too high, the food on the bottom will cook improperly. Keep the fire even and steady.

Bakers may be made from sheet metal or large rectangular cookie tins. A temporary one may be made by setting a pan on grate or sticks (six to eight inches long) off the ground and placing foil in an angular position, as in other reflector ovens.



END VIEW OF BAKERS AND FIRE

Orienteering Challenges the Individual

DUANE E. BUCHANAN

Mrs. Buchanan is a graduate of the University of Illinois in Urbana, and received her M.S. from Illinois State University, Normal. At present, she is an instructor of physical education at Illinois State University. She competed in the first United States Civilian Orienteering Championships in 1970 and won third place in her class.

Do you enjoy being in the country, away from buildings, cars, noises? Would you enjoy participating in an exciting activity with a real challenge? Do you like to test your wits, courage, self-confidence, skill, and endurance? If you respond in the affirmative, then orienteering is the activity for you. In orienteering, the skills of map and compass reading are utilized in a competitive situation.

Orienteering originated in Sweden in 1918 and is now very popular in Europe. Only in recent years has there been competition in the United States and this by military personnel. In 1970, the first civilian championships were held at Little Grassy Lake near Carbondale, Illinois. There were four classifications of contestants: novice women, skilled women, novice men, and skilled men.

When competing in an orienteering meet, the participants are given a topographical map of the area prior to the starting time. Each person can then study the map, noting such things as streams, wooded areas, clearings, hills, lakes, paths, and roads. The contestants begin the race by starting in one minute intervals and are on their own until the meet is finished.

When the starter shouts "go," the contestant runs to a master map area and transcribes, from the master map to her own map, the control points which she must find. The transcribing of these points must be very exact, or else the contestant may be far from the control points when out in the field. The control points are numbered and the individuals must go to the correct ones and in the proper order. After putting the control points on the map, the runner then orients the compass to the map and decides on the route to take to the first point. The lay of the land must be taken into consideration. Would it be better to go straight through the woods? Would it be faster to follow a path and later head to the control point so a heavily wooded area can be avoided? Will I be going uphill all the way if I take a beeline to the control point? The participants must consider these types of questions and quickly arrive at an answer. Good judgment is needed as well as skill in map reading and

quick appraisal of the situation. When reaching a decision, the contestant cannot hesitate but must rely on her judgment and have the courage to plunge forward toward her goal. This is certainly a time of self-testing. When the first control point is found, the contestant punches the card she is carrying, thus showing she has reached that point. Then another period of reading the map and compass and she is off again.

At the last control point, the contestant follows a marked trail to the finish line. The time it took to complete the course is then recorded. Tired from the competition, the runner feels the satisfaction that her knowledge of map and compass has brought her to the finish line.

A limited amount of equipment is needed to practice orienteering. An interested individual needs only a topographical map of the area, a compass, and some instructions on how to use them. The Geological Survey Department in Washington, D.C. has maps of all areas of the United States and will send them on request. Compasses are available in all price ranges, with the most expensive costing about $20.

Orienteering is an exciting challenge and should be available to many people. It could be a part of the program in the Girl Scouts, Boy Scouts, YMCA, and YWCA. It could also be a part of outdoor education in a school system. It has a place in women's recreation associations, intramurals, or intercollegiate activities in colleges and universities. It could be done by families competing as teams.

Rockhounding

MILDRED D. SCHEFFEL

Miss Scheffel is presently an instructor at Woodruff High School, Peoria, Illinois. She is active in the Geology Section of the Peoria Academy of Science.

Rockhounding is an outdoor-indoor activity that ranks among the top three hobbies in popularity in our country. It has been estimated that there are well over one million rockhounds (adults) and pebble pups (children). It is frequently a family enterprise and is often combined with camping and vacation trips. It is a year-round activity: collecting, preparing, studying, classifying, and often exhibiting specimens.

How does one get started in this fascinating hobby of collecting rocks? There are several possibilities:

1. Join a club. There are many rockhound clubs and there is possibly one in your community or at least within a reasonable driving distance of your home. After you join a club, you will receive the club bulletin. This will keep you posted on meetings, field trips, or any special events. You don't know the difference between calcite and quartz or a brachiopod and trilobite? Take a club field trip and by the end of the trip you will have learned something. On each succeeding trip to the field you will gradually increase your knowledge and enjoy the trips more.
2. Take an interested friend or two to a nearby stream bed, road cut, quarry, or spoil piles of a mine. Look around and perhaps you will come up with a few interesting rocks or fossils. If one is completely new to the field of geology and its related sciences this can be a difficult and somewhat slow way to get started in rockhounding.
3. Obtain a few inexpensive books. Paperback books on geology, minerals, and fossels cost approximately $1.00 each. Many state geological surveys have free reference lists with free or inexpensive booklets on many related subjects. Your state may have several geological maps available, ranging from no cost to $2.50 each. A number of states have a Geological Education Extension Service within their Geological Survey. This group will identify minerals and fossils for you. They will answer your questions and they are helpful in assisting you in many ways. The Illinois State Geological Survey conducts six Educational Earth Science Field Trips annually for the interested amateur.

4. Visit a local rock collector, dealer (one who sells specimens and equipment for rockhounds), museum, or a rock show. They are willing to help you get started in your new interest.

There is a variety of different interest groups among rockhounds. One of the most popular phases of this hobby is lapidary. This is the cutting and polishing of stones into cabochons for sets in jewelry. A few people specialize further by studying faceting or silver smithing. There are those who collect minerals and/or crystals. These collections range in size from micromounts (must be studied under a microscope), to thumb nail size (must fit within a 1 inch by 1 inch cube), to fist size specimens; also, occasionally there is the individual who collects museum specimens. However, most of the latter type of specimens are purchased from rock dealers. A number of rockhounds have varied collections such as: petrified wood from every state, sands from all over the world, a rock from each county in a state, microfossils, a collection of sand paintings, and hand carved rock "paintings." Many are interested in fossils. Their collection may contain fossils from only one locality, or they may be from one formation, or only one type of the many different kinds of fossils. This field is almost unlimited; however, it is wise to concentrate your collection in one area.

Rockhounding is a great and relaxing pastime. If you need an exciting hobby then this may be your answer.

Riflery in the Service Program

DEE MORRIS

Dee Morris is associate professor of physical education at Ohio State University, Columbus. In addition to experience in competitive shooting, she has been a rifle instructor in camp, school, and college programs as well as a varsity rifle coach.

A major goal of the college basic physical education program is to provide instruction and experience in a variety of activities, many of which may become leisure time pursuits after the student leaves college. Those activities which lend themselves to individual or small group participation, the so-called carry-over sports, receive heavy emphasis. Riflery has a high degree of adult recreational value, and is uniquely interesting to students; these and other qualities commend its inclusion in the basic physical education program.

The shooting sports have traditionally been thought of as carrying a "for men only" label; perhaps this is at least in part the reason why so few women's programs have included riflery in their activity offerings. A closer look at the shooting sports shows the "men only" label to be more myth than truth. Examination of the annals of target shooting reveals many female "marksmen" among the champions. In recent years, our nation has often been represented in international competition by teams composed of both men and women; any doubt of women's ability to master shooting skills should have long since disappeared.

The sport of target shooting offers many values to the participant. It is an activity which is not particularly age limited; many continue to compete until quite late in life. It is also one in which there are numerous opportunities for participation and competition by persons of all skill levels; in addition to this, it is one of the few sports in which men and women can compete evenly, with no rules modification necessary.

As a student learns and practices shooting techniques she is likely to acquire sharpened visual judgement and muscular control. In shooting, precision is the "name of the game," and it has been my observation that students *do* gain an increased ability to concentrate on the task at hand, and a thoroughness in attending to the many small but important details involved in the skill. Shooting is a sport particularly suited to building self-discipline and patience; over a number of years participating in and teaching and coaching the sport, I have observed that in most cases, these traits are indeed acquired and/or strengthened.

A most significant value of marksmanship instruction is that those who have a knowledge of firearms and how to use them safely are unlikely to be involved in firearms accidents. The hunting accidents which appall us each autumn, as well as the home firearms accidents which exact their toll year-round are largely caused by careless handling of firearms by persons who have not been instructed in their proper use. Instructing as many as possible, both men and women, in safe firearms use is a most effective means of reducing the accident rate. Although instruction may be oriented to target shooting, the basic concepts and skills, safety procedures, and the "safety attitude" will carry over to hunting as well.

Recognizing its worth, a number of schools have included riflery among the activities offered in the basic physical education program. This article is intended as a source of help, suggestion, and perhaps encouragement to others who may wish to consider including riflery in their programs.

Facilities

At schools where there is, or has been, an ROTC program, there will be some type of shooting facility. At the schools I have known military personnel have been most cooperative in making range time available for instruction. Where no shooting facility exists, it may be possible to construct a suitable one without great expense. Information on space requirements and range construction is available from the National Rifle Association, 1600 Rhode Island Ave., N.W., Washington, D.C.

Equipment

If equipment purchase is feasible, it is wise to obtain good quality equipment. As with all sports, students' mastery of the skill is facilitated by good equipment. All rifles should be equipped with adjustable rear aperture sights, and have hooded front sights. There should be an assortment of front sight apertures for each rifle. There should be one rifle for each two persons in the class.

If your department cannot purchase rifles, it may be possible to obtain use of those belonging to the military science department. Such cooperation can be a most satisfactory way to solve the equipment problem. Another possibility is to borrow rifles through the National Board for the Promotion of Civilian Rifle Practice. Instructional programs affiliated with the NRA and taught by NRA certified instructors may borrow rifles for class use; information on this procedure may be obtained from the NRA.

Other essential equipment includes shooting jackets, gloves, and rifle slings. If at all possible, these should be purchased by the

department. Given reasonable care, these items should last for at least five years. Shared use, particularly of the jackets, is not the most satisfactory arrangement because of the smaller sizes needed for women's classes. Catalogs and information of this equipment may be obtained from any company handling target shooting equipment.

Supplies

NRA affiliated courses are permitted to purchase .22 caliber ammunition at a considerable discount through the National Board for Promotion of Civilian Rifle Practice. Information is available from the NRA. Also, most sporting goods stores handling shooting supplies will allow school programs a generous discount.

Targets are least expensively obtained in lots of at least 500.

Course Outline:

The following is a suggested course outline for a beginning marksmanship class. The author has conducted classes in the manner outlined, and these procedures have been effective.

The 8 week course consists of 16 class periods of 45 minutes in length. The class periods consist of explanation, demonstration, and skills practice in about the same ratio as other activity classes. The course is usually open to students fulfilling the physical education requirement or who wish to elect an activity class. The class size is determined by the number the rifle range will accommodate for effective instruction; there should be no more than two students for each available firing point. This activity is well-suited to coeducational classes.

I. Course objectives – At the conclusion of the course, the student should
   - A. know and apply rules for safe firearms use
   - B. have a favorable attitude toward properly used firearms and toward the shooting sports in general
   - C. have acquired skill in accurately firing the .22 caliber rifle

II. Specific content
   - A. Terminology associated with the shooting sports
     1. caliber, riflings, trajectory, smallbore, etc.
   - B. The parts of the rifle and their functions
   - C. Safety procedures for both the field and the rifle range
   - D. The use of the sights
     1. the mechanics of aiming
     2. principles of sight adjustment
   - E. Correct firing technique
     1. position

2. sight alignment
3. breath control
4. trigger squeeze
5. follow-through

F. The use of accessory equipment
1. shooting jacket
2. sling
3. glove
4. spotting scope

G. Instruction and practice in each of the standard shooting positions
1. prone
2. sitting
3. kneeling
4. standing

H. Competitive target shooting
1. rules and scoring
2. types of competition
3. organizations which govern competition

I. Sportsmanship in shooting

III. Student's progress may be evaluated in terms of
a. observation of her technique and conduct on the range
b. her knowledge of equipment, technique, safety procedures, and rules for competition
c. her shooting skill, as reflected by her scores

IV. Overall plan for the 16 class sessions

Day 1. Introduction to the course
a. objectives, content, class organization, methods of evaluation
b. orientation to the rifle range; range procedures
c. the rifle: nomenclature and functions of the various parts
d. safety procedures

Day 2. Introduction to firing techniques
a. explanation of sights and aiming
b. triangulation exercise
c. explanation and demonstration of proper firing technique
d. practice firing from the prone position, with the rifle resting on a sandbag, or similar support; the emphasis is placed on grouping the shots. A rest is employed for initial firing to allow the student to concentrate on the mechanics of aiming, breath control, trigger squeeze and follow-through

Day 3. Zeroing the rifle
   a. explanation of sight adjustment technique
   b. firing for group (again from rest) and making necessary sight adjustments
Day 4. Introduction to the prone position
   a. use of shooting jacket, sling, and glove
   b. demonstration of the prone position
   c. practice firing from the prone position
   d. explanation of scoring method
Day 5. Practice firing from the prone position
Day 6. 20-shot intra-class prone match
Day 7. Introduction to the sitting position
   a. demonstration of technique
   b. practice firing from the sitting position
Day 8. Students fire scores from both the prone and sitting positions
Day 9. Introduction to the kneeling position
   a. demonstration of technique
   b. practice firing from the kneeling position
Day 10. Practice firing from the kneeling position
Day 11. Intra-class match: five shots from the prone, sitting and kneeling positions, respectively
Day 12. Introduction to the standing position
   a. demonstration of technique
   b. practice firing from the standing position
Day 13. Practice firing from the standing position
Days 14 and 15. Final intra-class match: 10 shots from each of the four positions
Day 16. May be used for a written examination if desired, or perhaps for firing an inter-class match.

Aids to motivation:

The NRA qualification of awards is an excellent aid to motivation; information on this is available from the National Rifle Association. Students whose scores in the final match (days 14 and 15) meet the standard may receive the NRA Collegiate qualification award. Giving the awards requires no additional paper work, and little additional expense, while adding considerably to students' pride in achievement.

Riflery is a worthwhile addition to the physical education program; hopefully, more departments will give it a place in their programs.

References

ADVANCED MARKSMANSHIP UNIT. *Handbook of Free Rifle Shooting.* Washington, D.C.: U.S. Army, 1962.

ARNOLD, RICHARD. *The Book of the .22.* Cranbury, N.J.: A. S. Barnes and Co., 1962.

CHAPEL, CHARLES. *The Art of Shooting.* Cranbury, N.J.: A. S. Barnes and Co., 1960.

MORRIS, DELYTE. *Smallbore Rifle Marksmanship.* (unpublished material)* 1963, Revised 1969.

NATIONAL RIFLE ASSOCIATION. *International Shooting,* reprints from "The American Rifleman." Washington, D.C.: the Association, n.d.

POLLARD, JACK (Editor). *Straight Shooting.* Wellington, Australia: A. H. and A. W. Reed Publisher, 1967.

*May be obtained from author.

Competitive Cycling

MARTHA JACK

Miss Jack received her B.S. degree from the University of North Carolina, Greensboro, and is presently teaching physical education in Northbrook, Illinois. She has participated in the National Bicycle Championships.

Cycling for women in the United States is a sport that is challenging and exciting. There is national competition sponsored annually by the Amateur Bicycle League of America and local competition sanctioned by the same organization.

Road racing and track racing are two types of competitive cycling. Road racing is contested on a bicycle with two working brakes, ten gears, and a free wheel. For safety reasons, little traveled country or back roads are used for these races. Track racing is contested with a bicycle with no brakes and one fixed gear on a track or velodrome. At the present time these cycling activities are centered on the nine velodromes in the United States. Velodromes vary from 1/6 mile, 1/3 mile, ¼ mile, to 250 meters. The banking also varies at the ends from 7°, 27°, 32°, to 41°. The surface can be of asphalt or cement.

Three events for women held at the world and national championships are the 1,000 meter match sprint and 3,000 meter pursuit which are held on the track, and a road race of 30 to 35 miles. Criteriums, usually local events, are raced around a 1 to 2 mile course for specified distances. Stage races are held over two or three days in stages of 25, 60, to 80 miles. Time trials are contested against the clock for distances of 10, 25, and 50 miles.

Position on the bicycle is of utmost importance. The bicycle should be made to fit the rider so the optimum speed can be gained. Most racing machines are imported from Europe. To fit a rider, the angles of the frame should be in proportion to the leg and body length of the rider.

If this is not possible, adjustments can be made by moving the handlebars and/or saddle forward or backward. The length of the stem, a piece which connects the handlebars to the frame, can also be varied to get the proper body position.

In 1976 at Montreal, Canada, women's cycling events will be held for the first time in the Olympics. The present world championships are dominated by Russian competitors with English, Dutch, Italian, and French women in lower places. Olympic competition should encourage American women into training for faster speeds and more challenging races.

Whether racing or touring, cycling has the most participation of any sport in the United States today. The bicycle is enjoyed by young and old as it is used for transportation, recreation, and competition.

For further information on competitive cycling, write to the Amateur Bicycle League of America, c/o Mr. Al Toefield, 87-66 256th Street, Floral Park, L.I., New York, 11001. Those cyclists more inclined to weekend trips or tours should contact the League of American Wheelmen, 5118 Foster Ave., Chicago, Illinois, 60603.

Winter Camping

BETTY GENE ALLEY

Miss Alley, a former member of the Girl Scouts of the U.S.A. National Staff, is an enthusiastic year-round camper. She has served as a leader of camp director courses.

Camping is more than a summertime joy! For maximum enjoyment of the out-of-doors, camp during winter's quiet snowy season. Sites blanketed with snow will be virtually void of people and noise, yet filled with nature's wonders just waiting for discovery. For adventure and *real* camping fun, extend the joys of outdoor living to 12 months!

One of the first considerations for campers in cold weather is *WHAT TO WEAR*. Loose fitting clothes allow for better circulation, so wear layers of lightweight, warm, bulky clothing. Wool retains warmth and dries quickly. You can be comfortable in a flannel shirt, a lightweight wool sweater and a windbreaker with a hood covering a wool hat. Layers can then be peeled off as the camper gets warmer. Two-piece lightweight woolen or thermal underwear gives added warmth – and a damp half is easily changed. Take at least one complete change of clothing (including shoes) because wet garments lose their insulating effect.

Wear knitted wool gloves or mittens covered with waterproof over-mittens for extreme cold. Treat your feet to two pairs of socks, one cotton underneath a heavy wool pair. Extra socks are a necessity in order that damp ones may be changed immediately.

Give careful thought to *SHELTER*. Tenting in the snow requires a pitched roof (A-type) tent to shed the snow, an entrance flap to close out the wind, a sewn-in floor to add warmth, and a location with some protection such as near a hillside, trees, or rocks. Special angle pegs should be used in pitching the tent as they stand a better chance of holding and entering the hard ground. If there is snow, tie the guy lines around crossed sticks and bury the "X" in the snow. Heat non-explosive rocks in a fire several hours, place them in a bucket and use them to warm the tent. Be sure to put asbestos under bucket.

Before pitching the tent, stamp out the site in the snow, and put down thick layers of newspaper or heavy cardboard, followed by a ground sheet. Erect the tent with the wind at its back. Cover the tent floor with more newspapers and a removable ground cloth. Try to keep the tent dry inside by brushing snow off of the clothes with a whiskbroom before entering. Sit in the tent entrance, and hit your

boots together to rid them of snow, remove them, and change into other shoes or down booties or crawl into your sleeping bag.

Use a 3/8" thick ensolite pad under the sleeping bag. It insulates efficiently and is lighter and warmer than an air mattress although it is bulkier and has to be rolled up. Place a blanket under and on top of the mattress or pad for added warmth. Keep the sleeping bag rolled up during the day and shake it out before using it to redistribute the down. Take the chill out of the bed with a canteen of hot water or warm rocks wrapped in newspaper. Sleep in flannel pajamas, wool socks, a sweatshirt with a hood, and mittens. Keep tomorrow's clothes inside the bag and it will be warmer dressing in the morning. A thermos of hot coffee or tea waiting inside the tent is a blessed awakener in the mornings!

It takes advance planning for *FOOD* that is easily prepared, requires little cooking time, produces energy, and keeps cooking equipment and dishes to a minimum. One-pot stews are nourishing and simple to serve. Dehydrated and freeze-dried foods are found in most food markets. Energy is found in cheese, rice, hot cereal (try instant oatmeal), bacon, lots of bouillon, tea and cocoa. Canned vegetables are easily cooked right in their containers. Fresh fruits and vegetables are low in calories and likely to freeze.

Put dishwashing water on the fire when the meal is served to avoid waiting for hot water. Cut down on dishes and utensils with paper supplies. Waste water should be poured in a selected area. When counting on snow for water, remember that a pot full of snow will barely yield half a pot of water.

It will be impossible to collect too much wood for *fire-building*! Some wood will need to be on hand most of one's waking hours. The woodpile needs to be covered at all times. For a fire-site, clear snow away or tamp it down firmly to keep fire from falling through. Build a base support for the fire from green logs. Candles and other fire-starters are very useful in snow camping. Keep your tinder wrapped in plastic bags.

If there is no pit *Latrine*, a portable one can be made from a wooden keg or a large tin can. Attach a covered seat to it, fill with some ashes, sawdust or dirt (keep some nearby to put into keg after each use). Take the latrine to a disposal on the way home along with flattened tin cans, grease collected in a covered container, and unburnable garbage.

Some *personal don't forgets* for comfortable snow camping are dark glasses to avoid the snow glare, a dime for emergency telephoning, lip ointment, face cream, first aid kit, flashlight (with extra batteries), litter bags to carry out garbage, small snow shovels, bowsaw (axes may glance off of frozen logs), and matches in a waterproof container.

Outing Activities References

E. PAULINE WINTER
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General

BROWER, DAVID ROSS. *The Sierra Club Wilderness Handbook.* New York: Ballantine Books, Inc., 1967.

BROWN, ROBERT and MOUSER, G.W. *Techniques for Teaching Conservation Education.* Minneapolis: Burgess Publishing Co., 1964.

CARLSON, REYNOLD E.; SMITH, JULIAN; DONALDSON, GEORGE W.; and MASTERS, HUGH B. *Outdoor Education.* Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1963.

GARRISON, CECIL. *Outdoor Education: Principles and Practice.* Springfield, Ill.: Charles C. Thomas, Publisher, 1966.

HAMMERMAN, DONALD R. and HAMMERMAN, WILLIAM M. *Outdoor Education.* Minneapolis: Burgess Publishing Co., 1964.

———————— *Teaching In The Outdoors.* Minneapolis: Burgess Publishing Co., 1964.

HUG, JOHN W. and WILSON, PHYLISS J. *Curriculum Enrichment Outdoors.* Evanston, Ill.: Harper & Row, Publisher, 1965.

JENSEN, CLAYNE R. *Outdoor Recreation In America.* Minneapolis: Burgess Publishing Co., 1970.

Man And His Environment. Washington, D.C.: AAHPER, 1970.

MILLIKEN, MARGARET ET AL. *Field Study Manual for Outdoor Learning.* Minneapolis: Burgess Publishing Co., 1968.

NICKELSBURG, JANET. *Field Trips (Ecology For Youth Leaders).* Minneapolis: Burgess Publishing Co., 1966.

Outdoor Education (Classroom Teacher Series). Washington, D.C.: AAHPER, 1970.

STAPP, WILLIAM B. *Intergrating Conservation and Outdoor Education into the Curriculum.* Minneapolis: Burgess Publishing Co., 1965.

STORER, JOHN H. *The Web of Life.* New York: Signet Books, 1953.

SWIFT, ERNEST F. *A Conservation Saga.* Washington, D.C.: National Wildlife Federation, 1967.

Camping

ANGIER, BRADFORD. *Living Off The Country.* Harrisburg, Pa.: Stackpole Books, 1956.

_____. *More Free-For-The-Eating Wild Foods.* Harrisburg, Pa.: Stackpole Books, 1969.
_____. *Wilderness Cookery.* Harrisburg, Pa.: Stackpole Books, 1963.
ATHLETIC INSTITUTE. *Campcraft–Series One.* Chicago: the Institute, 1968.
_____. *Campcraft–Series Two.* Chicago: the Institute, 1968.
BALE, R.O. *Outdoor Living.* Minneapolis: Burgess Publishing Co., 1961.
BATES, JOSEPH D., JR. *The Outdoor Cook's Bible.* New York: Doubleday & Co., Inc., 1963.
BERGER, H. JEAN. *Program Activities For Camp.* Minneapolis: Burgess Publishing Co., 1961.
BIER, JAMES ALLEN. *Campground Atlas of the United States and Canada.* Champaign, Ill.: the author, 1969.
Campcraft Instructor's Manual. Martinsville, Ind.: American Camping Association, 1966.
COX, JACK. *Modern Camping.* New Rochelle, N.Y.: Sportshelf, 1968.
HAMMETT, CATHERINE T. *Your Own Book of Campcraft.* New York: Simon & Schuster, Inc., 1950.
_____ *and* MUSSELMAN, VIRGINIA. *The Camp Program Book.* New York: Association Press, 1951.
HAMPER, STAN. *Wilderness Survival.* Dowaglac, Mich.: the author, 1963.
HANDEL, CARLE W. *Canoe Camping.* New York: The Ronald Press Co., 1953.
JOHNSON, JAMES RALPH. *Advanced Camping Techniques.* New York: David McKay Co., Inc., 1967.
LEDLIE, JOHN ANDREW. *The Handbook of Trail and Wilderness Camping.* New York: Association Press, 1967.
MENDENHALL, RUTH D. *Backpack Cookery.* Glendale, Calif.: La Siesta Press, 1966.
_____. *Backpack Techniques.* Glendale, Calif.: La Siesta Press, 1968.
MITCHELL, A. VIOLA; CRAWFORD, IDA B.; and ROBBERSON, JULIA D. *Camp Counseling.* Philadelphia: W.B. Saunders Co., 1970.
NORTHWAY, MARY and LOWES, BARRY G. *The Camp Counselor's Book.* Minneapolis: Burgess Publishing Co., 1963.
PETERSON, GUNNAR A. *The Fun in Winter Camping.* New York: Association Press, 1967.
RAUP, LUCY G. *The Campers' Cookbook.* Rutland, Vt.: Charles E. Tuttle Co., Inc., 1967.

RETHMEL, R.C. *Backpacking.* Alamogordo, N.M.: Alamogordo Printing Co., 1968.
REVIERE, BILL. *The Camper's Bible.* Rev. ed. New York: Doubleday & Co., Inc., 1969.
_____. *Family Camper's Cookbook.* New York: Holt, Rinehart & Winston, Inc., 1965.
THURSTON, LARUE A. *Complete Book of Campfire Programs.* New York, N.Y. 10007: Association Press, 1958.
_____. *Good Times Around the Campfire.* New York: Association Press, 1967.
WELLS, GEORGE S. *Modern ABS'S of Family Camping.* Harrisburg, Pa.: Stackpole Books, 1967.
_____ and WELLS, IRIS. *Handbook of Auto Camping.* Rev. ed. New York: Harper & Row, Publishers, 1964.
WHELEN TOWNSEND and ANGIER, BRADFORD. *On Your Own In The Wilderness.* Harrisburg, Pa.: Stackpole Books, 1958.

Outing Activities

ALD, ROY. *Cycling for Exercise and Fitness.* New York: Grosset & Dunlap, Inc., 1968.
ATHLETIC INSTITUTE. *Fishing.* Chicago: the Institute, 1968.
BEAR, FRED. *The Archer's Bible.* Garden City, N.Y.: Doubleday & Co., Inc., 1968.
BROOKS, JOSEPH W. *Salt Water Game Fishing.* New York: Harper & Row, Publisher, 1968.
CHAPEL, CHARLES. *Field, Skeet, and Trapshooting.* New York: Funk & Wagnalls, 1968.
CHIAPPETTA, JERRY. *Modern ABC's of Ice Fishing.* Harrisburg, Pa.: Stackpole Books, 1966.
CONE, ARTHUR L. *Fishing Made Easy.* New York: The Macmillan Co., 1968.
COOPER, JOHN REX. *The Art of the Complete Angler.* Durham, N.C.: Duke University Press, 1968.
DALRYMPLE, BYRON. *Sportsman's Guide to Game Fish.* Cleveland: World Publishing Co., 1968.
EVANOFF, VLAD. *1001 Fishing Tips and Tricks.* New York: Harper & Row, Publishers, 1966.
GILLELAN, G. HOWARD. *Modern ABC's of Bow and Arrow.* Harrisburg, Pa.: Stackpole Books, 1967.
_____. *Sportsman's Guide to Archery.* New York: Cornerstone Library, Inc., 1966.
HARDMAN, THOMAS C. and CLIFFORD, WILLIAM D. *Let's Go Water Skiing.* New York: Hawthorn Books, Inc., 1969.
JEAGER, ELLSWORTH. *Nature Crafts.* New York: The Macmillan Co., 1950.

KJELLSTROM, BJORN. *Be Expert With Map and Compass: The "Orienteering" Handbook.* Harrisburg, Pa.: Stackpole Books, 1967.
LAYCOCK, GEORGE and BAUER, ERWIN. *Hunting With Bow and Arrow.* New York: W.W. Norton & Co., Inc., 1966.
MAJOR, HARLAN. *Basic Fishing.* New York: Funk & Wagnalls, 1968.
PETERSON, GUNNAR and EDGREN, HARRY. *The Book of Outdoor Winter Activities.* New York: Association Press, 1962.
SELL, FRANCIS E. *Sure-Hit Shot-Gun Ways.* Harrisburg, Pa.: Stackpole Books, 1967.
Shooting and Hunting, Washington, D.C.: AAHPER, 1960.
SMITH, HERVEY GARRETT. *The Small-Boat Sailor's Bible.* New York: Doubleday & Co., Inc., 1964.
STEBBINS, HENRY M. *Teaching Kids to Shoot.* Harrisburg, Pa.: Stackpole Books, 1966.
RATLIFF, DONALD E. *Map, Compass and Campfire.* Portland, Ore.: Binfords & Mort, 1964.
REVIERE, BILL. *Pole, Paddle & Portage.* New York: Reinhold Publishing Co., 1969.

NATURE REFERENCES

Series

Golden Nature Guides. New York: Simon & Schuster, Inc.
Life Nature Library. New York: Time, Inc.
Our Living World of Nature. New York: McGraw-Hill Book Co.
Putnam's Nature Field Books. New York: G.P. Putnam's Sons.
The Peterson Field Guide Series. Boston: Houghton Mifflin Co.

General

BROWN, VINSON. *How To Make a Home Nature Museum.* Boston: Little, Brown and Co., 1954.
HARTY, WILLIAM T. *Science For Camp And Counselor.* New York: Association Press, 1964.
HILLCOURT, WILLIAM. *Field Book of Nature Activities And Conservation.* New York: G.P. Putnam's Sons, 1961.
HOOD, MARY V. *Nature and the Camper.* Menlo Park, Calif.: Lane Magazine & Book Co., 1966.
MUSSELMAN, VIRGINIA. *Learning About Nature Through Games.* Harrisburg, Pa.: Stackpole Books, 1967.

VAN DER SMISSEN, BETTY and GOERING, OSWALD H. *A Leader's Guide To Nature-Oriented Activities.* Ames, Iowa: The Iowa State University Press, 1968.
VINAL, WILLIAM GOULD. *Nature Recreation (Group Guidance For The Out-Of-Doors).* New York: Dover Publications, Inc., 1963.

Astronomy and Weather

EDINGER, JAMES G. *Watching For The Wind.* Garden City, N.Y.: Doubleday & Co., Inc., 1967.
FISHER, ROBERT MOORE. *How To Know And Predict The Weather.* New York: The New American Library of World Literature, Inc., 1958.
HOLMES, DAVID C. *Weather Made Clear.* Rev. ed. New York: Sterling Publishing Co., Inc., 1965.
KING, HENRY C. *Pictorial Guide To The Stars.* New York: Crowell-Collier Press, 1967.
MAYALL, R. NEWTON and MAYALL, MARGARET. *Beginner's Guide To The Skies.* New York: G. P. Putnam's Sons, 1960.
NICKELSBURG, JANET. *Stargazing: A Group Leader's Guide.* Minneapolis: Burgess Publishing Co., 1964.
OLCOTT, WILLIAM ET AL. *Field Book Of The Skies.* New York: G.P. Putnam's Sons, 1954.
REY, H.A. *The Stars: A New Way To See Them.* Boston: Houghton Mifflin Co., 1962.
SCHNEIDER, HERMAN. *Everyday Weather And How It Works.* New York: McGraw-Hill Book Co., 1951.
WOODRUFF, H. CHARLES. *Amateur Astronomy For The Beginner.* Indianapolis: The Bobbs-Merrill Co., Inc., 1966.
ZIM, HERBERT S. ET AL. *Weather.* New York: Simon & Schuster, Inc., 1957.

Animals

GROSSENHEIDER, BURT. *A Field Guide To The Mammals.* Boston: Houghton Mifflin Co., 1952.
JAEGER, ELLSWORTH. *Tracks and Trailcraft.* New York: The Macmillan Co., 1948.
MASON, GEORGE F. *Animal Homes.* New York: William Morrow Co., Inc., 1947.
_____. *Animal Tracks.* New York: William Morrow Co., Inc., 1943.
MURIE, OLAUS. *Field Guide To Animal Tracks.* Boston: Houghton Mifflin Co., 1954.

PALMER, E. LAURENCE. *Palmer's Fieldbook of Mammals.* New York: E. P. Dutton & Co., Inc., 1957.
SCHMIDT, KARL P. and DAVIS, D. DWIGHT. *Field Book Of Snakes Of The United States And Canada.* New York: G. P. Putnam's Sons, 1941.
ZIM, HERBERT S. and SMITH, HOBART M. *Reptiles and Amphibians.* New York: Simon and Schuster, Inc., 1953.

Birds

CRUICKSHANK, ALLAN and CRUICKSHANK, HELEN. *1011 Questions Answered About Birds.* New York: Dodd, Mead & Co., 1958.
PEARSON, T. GILBERT. *Birds of America.* Garden City, N.Y.: Garden City Publishing Co., 1944.
PETERSON, ROGER TORY. *Field Guide To The Birds.* New York: Houghton Mifflin Co., 1948.
_____. *Field Guide To Western Birds.* New York: Houghton Mifflin Co., 1961.
_____. *The Birds.* New York: Time, Inc., 1963.
PETTIT, MARY P. *My Hobby Is Bird Watching.* New York: Hart Publishing Co., Inc., 1955.
POUGH, RICHARD H. *Audubon Land Bird Guide.* Garden City, N.Y.: Doubleday & Co., Inc., 1949.
_____. *Audubon Water Bird Guide.* Garden City, N.Y.: Doubleday & Co., Inc., 1951.
_____. *Audubon Western Bird Guide.* Garden City, N.Y.: Doubleday & Co., Inc., 1957.
ROBBINS, CHANDLER S.; BRUNN, BERTL; and ZIM, HERBERT S. *A Guide To Field Identification Birds of North America.* New York: Golden Press, 1966.
TERRES, JOHN K. *Songbird In Your Garden.* New York: Crowell-Collier Press, 1968.

Rocks and Minerals

FENTON, CARROLL LANE and FENTON, MILDRED. *Rocks And Their Stories.* New York: Doubleday & Co., Inc., 1951.
GALLANT, ROY A. and SCHUBERT, C. J. *Discovering Rocks and Minerals.* New York: Doubleday & Co., Inc., 1967.
RHODES, FRANK H.; ZIM, HERBERT S.; and SHAFFER, PAUL R. *Fossils: A Guide To Prehistoric Life.* New York: Golden Press, 1962.
ZIM, HERBERT S. and SHAFFER, PAUL R. *Rocks and Minerals.* New York: Simon and Schuster, Inc., 1957.

Insects

BLOUGH, GLENN O. *Discovering Insects.* New York: McGraw-Hill Book Co., 1967.
KLOTS, ALEXANDER and KLOTS, E. *1001 Answers To Questions About Insects.* New York: Grosset & Dunlap, Inc., 1963.
ZIM, HERBERT S. and COTTAM, CLARENCE A. *Insects.* New York: Golden Press, 1951.

Trees and Plants

ARCHBALD, DAVID. *Quick-Key Guide To Trees.* New York: Doubleday & Co., Inc., 1967.
HARLOW, WILLIAM M. *Trees Of The Eastern And Central United States And Canada.* New York: Dover Publications, Inc., 1957.
KIERAN, JOHN. *Introduction To Trees.* New York: Doubleday & Co., Inc., 1966.
PETERSON, ROGER TORY and MCKENNY, MARGARET. *A Field Guide To Wildflowers of Northeastern And North-Central North America.* Boston: Houghton Mifflin Co., 1968.
PLATT, RUTHERFORD. *1001 Questions Answered About Trees.* New York: Dodd, Mead & Co., 1958.
TAYLOR, NORMAN. *1001 Questions Answered About Flowers.* New York: Dodd, Mead & Co., 1963.
WHERRY, EDGART. *Wildflower Guide, Northeastern And Midland United States.* Garden City, N.Y.: Doubleday & Co., Inc., 1948.
———. *The Fern Guide, Northeastern and Midland United States and Adjacent Canada.* Garden City, N.Y.: Doubleday & Co., Inc., 1961.
ZIM, HERBERT S., and MARTIN, ALEXANDER C. *Flowers.* New York: Golden Press, 1950.
———. *Trees.* New York: Golden Press, 1952.

Outdoor Activities Visual Aids

CHARLES MORTENSON
HELEN KNIERIM
Wisconsin State University
Whitewater, Wisconsin

JEROLD ELLIOTT
Pennsylvania State University
University Park, Penn.

Camping

Applachian Trail. 28 min., color, cost is postage (2).*
Campcraft (Series No. 1). Color (3). Site and Sanitation, Food and Fire, Toolcraft, Orienteering. Filmstrips. Instructor's Guide.
Campcraft (Series No. 2). Color (3). Shelters, Gear, First Aid, Trip Leadership. Filmstrips.
By Map and Compass. 26 min., sd., color, $10.50, GSC-571 (7). Father and son demonstrate use of topographic map and compass.
Family Camping. 16mm., 28 min., color $2.40, #81628 (8). Suggests equipment and procedures for different types of family camping.
The Wilderness Trail. 15 min., HSC-698 (10). A pack trip into wilderness area of Bridges National Forest in Wyoming.
Winter Camping. 22 min., sd., b&w, $4.40 (7). Techniques for camping in snow.
Winter World. 16mm., 17 min., sd., color or b&w (10). How to dress, travel, make camp, and sleep in the snow with emphasis on minimum equipment.
Adventuring in Conservation. 14 min., sd., color, GSC-772 (9). Boys and girls discover interdependence of plants and animals. Camping practices help to conserve natural resources.
Chaparral Classroom. 19 min., sd., color (9). A sixth grade class from Los Angeles goes to school camp for a week; camp activities and new interests are carried back to the classroom.
Cry of the Marsh. 15 min., sd., color (4). A dramatic and powerful documentation of marshland abuse.
The Gifts. 30 min., sd., color (4). A new documentary film concerning the American landscape and what has happened to it over the past two and one-half centuries.

*Numbers in parentheses refer to film distributor listed at end of article.

How We Look At Things. 1967, 30 min., sd., color (5). Users of the Kalamazoo Nature Center describe their feelings and philosophy with regard to nature and the environment.

Outdoor Education. 1969, 16mm., 28½ min., sd., color, $15 (1). Developed by the Outdoor Education Project, AAHPER.

Patterns of the Wild. 1966, sd., color (6). Through the eyes of a wild fox, one sees that wildlife does not merely live in a forest but is an integral part of its structure.

American Trail. 27½ min., sd., color (11). Hiking and bicycling and other types of trails as sources of environmental recreation.

Tall as the Mountains. 27½ min., sd., color (13). Urban youth survival confrontation in Colorado wilderness.

Silent Spring. 60 min. (12). Rachel Carlson classic.

Sense of Wonder. 60 min., sd., color (12). Environmentalists themes of Rachel Carlson.

The Proper Place. 8 min., sd., color (14). A color cartoon showing the history of packaging industry in solving waste problems.

An Approach to School Site Development. 19 min., sd., color (15). Ann Arbor's approach to developing an environmental laboratory on school site.

Environment Awareness. 5½ min., sd., color (16). Finger painting is used to present a dramatic view of pollution effects.

Multiply – and Subdue the Earth. 60 min., sd., color (7). Principle of total ecological planning.

What Are We Doing to Our World. 1969, 54 min., sd., color (10). A documentary film describing how man is changing the environment without regard for the consequences.

Film Distributors

Many films are available free or at nominal cost (mailing charges) from most state conservation departments.

(1) American Association of Health, Physical Education and Recreation, 1201 16th St., N.W., Washington, D.C. 20036.

(2) Appalachian Trail Conference, 1718 N St., N.W., Washington, D.C. 20036.

(3) Athletic Institute Visual Sport Instruction Aids, Athletic Institute, 805 Merchandise Mart, Chicago, Ill. 60654.

(4) Bureau of Sport Fisheries and Wildlife, Fish and Wildlife Service – Film Library, Federal Building, Fort Snelling, Twin Cities, Minn. 55111.

(5) Kalamazoo Nature Center, 7000 N. Westnedge Ave., Kalamazoo, Mich.

(6) Motion Picture Service, U.S. Dept. of Agriculture, Washington, D.C. 20250.

(7) Indiana University Audio-Visual Services, Indiana University, Bloomington 47401.
(8) Visual Aids Service, University of Illinois, Champaign 61820.
(9) Educational Films, University of Michigan, Audio-Visual Center, Ann Arbor 48103.
(10) Bureau of Audio-Visual Instruction, University of Wisconsin, Madison 53701.
(11) Bureau of Outdoor Recreation, Department of Interior, Washington, D.C. 20240.
(12) McGraw Hill, 330 W. 42nd St., New York, N. Y. 10036.
(13) Adolph Coors, Golden, Colo. 80401.
(14) Association Films, 600 Madison Ave., New York, N.Y. 10022.
(15) International Films, 332 S. Michigan Ave., Chicago, Ill. 60604.
(16) National Park Service, Washington, D.C. 20240.

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* Guide material prepared by the 1969-1971 Committee.

A Class in Ski Orientation

MARILYN MOWATT and JOANNE WASHBURN

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There is an increasing need to offer classes that interest and stimulate today's student. The practical value of these classes must be apparent to the student. In our search for such classes, we may turn to the students' recreational needs and interests. There is an increasing number of ski areas in this country, more people skiing, and more people are taking ski lessons. Skiing has become a popular family sport. Some schools now offer their students on-the-hill lessons through clubs or school oriented programs. A ski orientation class can augment an existing ski program or offer a valuable experience to the student where no ski program is offered.

Ski orientation involves more than conditioning because it is designed to include an understanding of skiing for both the participant and the spectator. The objective is to provide an introduction to and a knowledge of the sport which would benefit the skier or non-skier.

A portion of each class period can be devoted to discussion. This is a time for presenting and sharing information related to many aspects of skiing. The remainder of class time is spent in activity, focussing on strength, flexibility, agility, and endurance exercise for skiing. The class can be taught in a relatively small activity area.

Films are shown at appropriate times during the course. Three days of film should suffice. Several short films will provide an introduction to the class (1) (2). There are many free films available which the instructor may use to supplement any segment of the discussion. An exciting "all around" film will provide a good conclusion to the course (4).

The following is a basic outline of what can be accomplished in a class in ski orientation. These ideas can certainly be enlarged upon, depending on your time, space, location, and purpose.*

*The ski orientation classes at the college where this outline is followed are taught as half-semester classes, combined with an outside team sport. The class meets twice weekly for one half hour.

Discussion Material

1. *Literature.* Samples of books, magazines, pamphlets, and advertisements which are available to the interested ski enthusiast are presented to the class. The wide variety will be fascinating to many, and anything from an area guide to an instructor's manual might stimulate discussion or give rise to questions. Materials should be left on display during and after class.
2. *Safety and etiquette.* These areas are usually introduced by the film "Rules of the Slopes" (2) and augmented by a hand-out sheet with "Do's and Don'ts", information on and from the National Ski Patrol, and a description of trail signs.
3. *Terminology.* A list of terms can be included with above hand-out sheet. Many of the terms will be used throughout the class, and the student will soon recognize and understand them.
4. *Clothing.* Various articles of clothing can be displayed in class (see your friends for their contributions), and up-to-date magazine ads can be posted in the room. Discussion should cover price ranges, practicality, guides to selection, and the necessary basics. Suggest, also, such inexpensive ideas as water-proofed jeans for ski pants and old panty hose for long jons for the beginner who isn't at all sure whether she really wants to become the avid ski enthusiast.
5. *Equipment.* The instructor may bring in her own and/or a friend's equipment in an attempt to acquaint the student with a wide variety of skis, boots, and bindings. Local merchants may wish to cooperate by supplying equipment or clothing for display. A wood ski and a metal or glass ski should suffice. Attempt to find a step-in binding and one with a cable or front throw lever or a type that is similar to a rental binding. A variety of boots may include leather (lace and buckle) and plastic. Allow the student to pass around, lift, undo or even try on these items. A discussion of price ranges, reasons for selection, proper fit and size, and proper budgeting for the selection of a "first outfit" should follow.
6. *Racing.* Students many times wish to understand ski racing for various reasons. A friend or member of the family might race. There might be students from their own school or from nearby schools who are prominent on the national racing scene. More and more television time is being devoted to the filming of the top FIS races during the winter season, and these race results now take their place on the sports pages of newspapers. Someone in class might have raced and can share her experiences.

   The Nordic and Alpine events can be outlined (including the historical background) and a brief description of each event can be given. If jumping or cross country skis are available, these will be of interest to the class. Mentioning national or international

skiers and showing the coverage they receive on sports pages in newspapers makes a good point. If it is an Olympic year, you have a "gold mine." The film "Ski Racers" (3) fits well following a discussion of the different ski events. It is rather technical, but well done, and does show ample footage of women racers.

7. *History.* This subject can be touched on enough to show the ancient origins of skiing and its relatively new appearance on the American scene. An "older" boot or ski can be exhibited to show the rapid advances in terms of equipment. Pictures of our first ski clothing or our first ski tows and areas may be added.
8. *Lifts.* When more material is desired, various handmade items can be devised to simulate various types of lifts. Two students holding several lengths of jump rope can give the class the feel of the proper riding position on the rope tow. An old, wide-basket ski pole can act as a poma lift. Two pieces of scrap wood or even two yard sticks become a T-bar. Two armless chairs will serve well as a double chair lift. One or two bamboo poles can be used to illustrate the difference when getting on a single or double pole chair.
9. *Ski areas.* Students might have noted the major ski areas in the country. Discussion should include the nature of the local area, the type of terrain, the lift fees, and the price of lessons.

General Suggestions

Ski posters and advertisements can be displayed on the walls or bulletin boards in your teaching area. Most of these are very colorful and enticing and help create atmosphere. Some display trail signs and warnings. Many are readily available and are free or inexpensive.

Appropriate folk music provides an accompaniment or background for the activity of the day. Lively German, Austrian, or Swiss music with some yodeling may serve the purpose.

Use any international, national, or local events to good advantage. Daily sports reports during an Olympic year can make class very exciting.

Activities for Conditioning

1. *Ski oriented fitness.* General fitness is a primary concern, with an emphasis placed on flexibility and and leg, shoulder, and abdominal strength. The instructor can add to these basic activities: modified push-ups, sit-ups, squat thrusts, isometrics, toe touches, side bends, and rope activities. A variety of activities are important, and these activities can be used in a circuit or as self-testing activities discussed below. The students also enjoy presenting exercises they have learned in other classes or groups.

2. *Circuits.* Use can be made of special equipment such as Bongo Boards, Ski Ways, twist boards, skip ropes, benches, and stairs to involve the student in a variety of activities. These can be introduced over several days and worked into a circuit as a concluding activity. Such a circuit might be conducted by dividing the students equally between stations and allowing time for each student to spend 30 seconds on the Bongo Board, Ski Way or twist boards. Intersperse these with activities such as rope skipping, bench step-ups, or running forward and backward on a sit of three steps. Fitness activities, as discussed above, can be added if the instructor wishes more or different stations.
3. *Self-tesing activities.* Students can record scores and attempt to better their scores in such activities as standing broad jump, sit-ups, 6 count squat thrusts, wall sitting, and modified push-ups. The instructor should set maximums and may choose to have the student eliminate an activity when she has achieved the maximum several days in a row. The maximum in the standing broad jump might be the student's height plus X inches. Maximums for sit-ups and modified push-ups can be determined in relation to the age group. Wall sitting and squat thrusts should be timed. In wall sitting the number of seconds is recorded, and the completed squat thrusts in X seconds (perhaps 15 seconds) is scored.
4. *Simulation of ski activities.* After viewing a film such as "Skiing: Beginning Movements" (1), students are aware of some of the basic positions and movements of the sport. These can be simulated in the class if the instructor wishes. Correct falling and getting up can be practiced on several folded mats. Place these same mats over some available incline, and the students can experience what happens when they side step or herring bone with tennis shoes on and they "edge", and what happens with only socks on and they cannot "edge." The "feel" of the snow plow, straight running, and traverse positions can be explored.

Film References

(1) Skiing: Beginning Movements. 16mm., 12 min., sd., color. Illustrates the basic positions and movements of skiing, and is actually a beginning ski lesson. Spencer Nelson Film Products, 1229 University Ave., Boulder, Colorado 80302.

(2) Rules of the Slopes. 16mm., 20 min., sd., color. A color film based on the National Skiers Safety Code. Informative and amusing. To arrange for showings, contact the nearest divisional office of the U.S. Ski Association or National Patrol System.

(3) Ski Racers. 16mm., 28 min., sd., color. Depicts a ski racers's life – the time spent on the care of the skis, the emotional strain, the physical training, memorization of the course, winning and losing. Modern Talking Picture Service, Inc., 16 Spear St., San Francisco, California 94105.

(4) Ski the Outer Limits. 16mm., 28 min., sd., color. Includes basics, racing, acrobatics. The philosophy suggested may be that of skiing or living. One learns according to inner limits. When an individual style emerges, this is the outer limit. Association Films, Inc., 2221 South Olive St., Los Angeles, California 90007.

Books

CASEWIT, CURTIS W. *Ski Racing: Advise by the Experts.* New York: Acro Publishing Co., 1963.

EDITORS OF SKI LIFE MAGAZINE. *Ski Pointers by the Experts.* New York: Harper and Row, Publishers, 1961.

HUGGINS, ROBERT and HUGGINS, ELEANOR. *Skiing in the West.* H.M. Gousha Co., 2001 The Alameda, San Jose, California, 1967.

_____. *Physical Conditioning Handbook of the United States Alpine Ski Team:* 1968-69. United States Ski Association.

Class Text

WALLACE, WILLIAM N., and BEATTIE, ROBERT. *Golden Guide to Skiing: A Complete Course of Instruction in the Modern American Ski Technique.*

Skiing-Physical Preparedness or Physical Agony?

(The Critical Role of the Ski Club)

SAM BRITTEN

Dr. Britten holds B.S. and M.S. degrees from the University of California at Los Angeles and a Ph.D. degree from the University of Southern California, Los Angeles. He is a professor at San Fernando Valley State College and has served as faculty sponsor of the college ski club for the past eight years.

"Fantastic," "unreal," "the greatest sport ever," "I've never had so much fun." These are typical comments of the new club members after their first skiing experience. Little did they realize when they signed up for that first trip what an incredible adventure lay before them. For most members, the experience was a thrill of a lifetime, and, while they dreamed it would never end, they could hardly wait to get back home to tell their parents and friends of their new found love.

Unfortunately, many beginning skiers never enjoy the captivating power of that successful ski experience. The plague of physical exhaustion, muscle stress, torn ligaments and broken bones turns pleasure to pain, and many beginners quit before they really get started.

The glamour and popularity of skiing attracts many to the slopes with great anticipation but with little or no preparation. Skiing is not a sport to consider on impulse. The many injuries and bad experiences among beginners and ski dropouts would verify such an observation. It is difficult to say who might be at fault in this ever increasing problem. Perhaps, the promoters of the skiing industry have failed to accept their part in alerting their consumers to the hazards and potential dangers. It may be that the ski lift operators share some of the blame for not providing more stringent control and safety regulations on their slopes. Certainly part of the responsibility could belong to the national and regional ski associations, city parks and schools, and last but not least, the local ski clubs for not making a greater effort to educate and prepare the skier for this exciting, vigorous, and potentially dangerous sport.

The ski clubs across America perhaps have the best opportunity of all to influence the beginning skier, and this is where we must begin. There are three basic reasons for most of the unfortunate ski

experiences witnessed today: inadequate physical conditioning, insufficient knowledge concerning equipment, and improper or no instruction in skill and progression.

A well organized program designed to educate new club members in the areas of fitness, safety, and equipment should be an annual undertaking of every organized ski club.

There are a variety of ways a club may develop a program of this nature depending upon the geographical location, physical and human resources, and leadership ability. The following ideas are offered as a possible approach to the problem. The club program should include two phases, and, if possible, a third. These phases are fitness for skiing, knowledge of equipment and rules, and basic skill instruction.

Fitness for Skiing

The introduction to "fitness for skiing" should take place at a scheduled club meeting in the second half of October. This will permit just enough time to achieve a good level of conditioning before that first ski trip which usually is scheduled for the Thanksgiving holidays. A fitness program extending much beyond six weeks has a tendency to lose its appeal so the timing in phase one is an important consideration. In geographical areas where climate conditions normally do not permit skiing until late December the introduction of the fitness program should be adjusted accordingly.

Involving new members in a physical conditioning program is sometimes difficult to achieve; therefore, the approach must be carefully planned. The best response generally seems to occur when experienced club members take an active role in assisting with the instruction and demonstrations. One approach to the introduction of "fitness for skiing" program that the San Fernando Valley State College Ski Club has used several years with unusual success is as follows:

1. The meeting is begun on a light note with a short film and/or slides showing some club members who are having a great time both on and off the slopes. These shots are contrasted with other members who are shown limping around the lodge with a sprained knee or ankle or who have collapsed in a chair or bed unable to ski because of physical exhaustion or muscle soreness. This part of the presentation is usually very cleverly done by the camera buffs in the club and provides the perfect opening for the next part.
2. Following the film presentation, two or three of the better skiers in the club (both male and female) comment on the physical stamina required for skiing and the importance of conditioning the body for maximum enjoyment of the sport. These comments

set a serious tone for a short lecture on joint structure, muscle physiology, and cardiorespiratory function. This part of the program should be done by a professor, a teacher, or a school doctor who is familiar with the specific physiological needs of the beginning skier.

3. The lecture is immediately followed by an announcement of the club's "Fitness for Skiing Program." The president, or one of the club leaders, should make a strong appeal for all members to participate. A schedule of the program is passed around and members are encouraged to sign up for a minimum of two sessions a week and preferably three.

The preliminary planning for the actual fitness program should involve interested club members and at least one professional resource person. The determination of the best kind of skiing exercises in light of the available equipment is the primary concern. A lack of weights and other types of resistance equipment should not be a deterrent to a successful fitness program. Most equipment type exercises can be duplicated using team (two man) and rope exercises along with selected calisthenics. Don't overlook the use of stadium steps or stairs as a very good exercise source.

Once the conditioning program has been developed, a meeting schedule must be established. Three considerations in determining the schedule are: convenience to the club members, availability, and supervision. The responsibility for instruction during the first week of the "Fitness for Skiing Program" can be shared by the planning committee. The use of exercise program cards is highly recommended in order that members may record and see their progress as they continue in the program.

Knowledge of Equipment and Rules

Several club meetings, just prior to departure on that first trip of the season, should be designed to prepare the new members with adequate safety knowledge. Topics such as "boots and bindings," "selecting skis and poles," "protective clothing," "rules of the slopes," and "the value of ski lessons" all deserve special attention. Experts from the local ski shops, regional ski associations, and national ski patrol will be very helpful and usually quite willing to participate in presenting a good safety program. Ski shop owners are generally happy to provide all the equipment needed for demonstration purposes.

Basic Skill Instruction

This phase of the safety program is desirable but may be limited because of limited availability of facilities and equipment. There are

a number of ski shops across the country that have installed instructional facilities designed to simulate skiing conditions. It may be possible for the club to rent this facility or to obtain club discounts for a series of basic lessons. If this phase appears too difficult to arrange at home, all beginners should be strongly urged, if not required, to enroll in ski school on that first trip.

Conclusions

As the Thanksgiving holidays draw near, the club members, particularly the beginning skiers, will have gained considerable confidence because of their physical preparation and increased understanding of the selection and proper use of equipment.

One final and highly recommended effort in the overall club safety program should take place at the ski lodge. Having arrived at the ski area, usually the afternoon or evening before, *all* members are urged to put on their boots and skis and check their safety bindings for proper adjustment and release.

At last, with all these things accomplished, comes the happy thought that an accident-free, soreness-free, fatigue-free ski trip is now actually within the realm of possibility.

Skill and Knowledge

SANDRA J. SUTTIE

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Skiing is enhanced through knowledge which supplements the performance of standardized skills. The mastery of these skills is, of course, vital to improving performance in skiing. However, learning can often be facilitated through supplemental knowledges which affect the performance of basic skills. Skiing is not done in a stable environment, except under artificial conditions. The climate is continually changing, and the ski slopes reflect these changes. The skier who is able to perceive these changes in his environment and is able to adjust his movements accordingly will ski with greater consistency of skill and will be able to cope with a variety of conditions. Knowledge about the climate and techniques of coping with a variety of conditions should be taught to skiers.

Climatic Conditions

Since skiing is usually performed in the natural environment, the effects of the sun, clouds, and wind all need to be considered. The changes in temperature and wind directly affect snow conditions, while changes in lighting can affect not only the visibility of the area but also the depth perception of the skier.

Snow conditions include powder, packed, sugar and corn, crust, and ice as well as many combinations of these conditions. These conditions vary from day to day, hour to hour, and slope to slope. Although a ski class could experience only one basic type of slope condition, a recreational skier is likely to encounter many different conditions. The student in ski class should become aware of differing slope conditions and their effects on his skiing. Some of the necessary resultant changes in technique can be included in a ski course.

Basically the skier can learn that his skis will run fastest and his turns can be performed most quickly when the snow offers least resistance to his skis. Hard packed snow, nonbreakable crust and ice

are examples of such conditions. When the snow offers more resistance, such as powder or corn snow or breakable crust, his skis will run more slowly and turns must be patiently executed.

On fast slopes of hard packed snow, nonbreakable crust or ice, the skier must edge his skis to a greater degree to prevent sideward slipping. The weight must be kept well forward through flexion of the knees and ankles so that the skis will not run out from under him. On slopes which are slower, less edging is required. The body position is back farther, sitting into a balanced posture over the boots. On many days, conditions are variable on the slope, from wind-blown powder to ice. The skier needs to be extra alert to the changing conditions. As the speed of his skis changes because of greater or lesser amounts of resistance, the body must be ready to move forward over faster areas of the slope, and backward, over slower areas, to maintain balance.

Skiing on ice can be a terrifying experience, yet sometimes it can be avoided. A skier who is aware that ice can soften up during the warmer temperatures of midday can plan his ski hours more wisely. Skiers can be taught to avoid the ice forming on shady slopes and in tree shadows during late afternoon. If ice is in patches, skiers should be taught to ride it out or to continue across the patch before trying to turn or check speed. Attempts to change speed or direction while on ice often result in loss of control.

Lighting Conditions

Varying lighting conditions can affect the skier in many ways, from inconvenience to snow blindness. Not only is proper eye wear a safety and health precaution, but it can also facilitate visual perception. When clouds roll in, especially in late afternoon, a lighting condition can result called flat light, in which the skier is unable to make depth perceptions. Moguls and bumps are perceived as part of the flat slope. The knowledge that yellow lenses can aid vision in this condition is invaluable to the skier in executing his moves as well as contributing to his overall safety through improved vision. Yellow lenses appear to brighten up the visual field. In addition they keep wind and falling snow out of the eyes. Dark lenses are a necessity on bright days to limit the amount of light to the eye.

Conclusion

Observance of climatic factors can assist a skier in reading or perceiving slope conditions. These observations should enable the skier to adapt more readily to the conditions. The knowledge of basic differences in technique on varying slope conditions should lead to increased performance as well as greater confidence and enjoyment for the skier.

Common Errors in Skiing

LEANNE HARTEN

Miss Harten received her B.S. degree from the Pennsylvania State University, University Park and her M.S. from State University College of New York at Oneonta. Prior to her present position with the Boulder Public Schools, she was responsible for the women's ski program at the University of Colorado, Boulder, Colorado

Certain errors in skiing sometimes occur as a result of different types of snow conditions, changing terrain, and lack of confidence regardless of the level of the skier's ability. In some cases perhaps the error has resulted from inadequate or incorrect instruction. Common errors are:

1. Pushing downhill leg out
2. Lack of down motion before turn
3. Not completing a turn
4. Slipping too much in or out of a turn
5. Too much or not enough lead with uphill ski.

1. Pushing the downhill leg out is caused by fear. Skiers will do this to achieve a quick braking action in order to slow down. This results in a rotation of the body which in turn causes loss of angulation and natural body position. The result of this action leaves the skier in an awkward position for continuous motion and initiation of the next turn. The idea is to keep the lower part of the body – ankles, knees, and hips – angulated into the hill and the upper part of the body angulated over the downhill ski throughout the turn. (This position changes from one ski to the other during the turn.) Concentration should be made to complete the turn with all the weight on the new downhill ski. Lifting the tail of the uphill ski slightly will help to insure weight transfer. The downhill shoulder should be slightly reversed so as to prevent rotation and loss of angulation.

2. Sometimes turns can appear to be very abrupt with a leaping action into the turn with the upper body. The turning action occurs primarily through the knees. If there is no down motion before the turn, then any up motion will bring the body into an upright position. The result is a forced turn. The knees must be dropped in a down motion before the turn can be smoothly initiated.

3. It is often difficult to choose a comfortable traverse. A traverse which is too steep will cause the skier to go faster than he really wants to go. A traverse which is too shallow will cause the

skier to be too far out of the fall line for the next turn. Practicing just the traverse will help the skier to be more sure of his relation to the fall line. A turn is considered completed when the skier has returned to a comfortable traverse or in a position for the next turn. A fear of the fall line will cause a skier to panic and result in the skier's weight being thrown back. It is important to keep the body weight low and to drive the knees forward in order to complete the turn. When a comfortable speed has been established, the skis should be edged into the snow and the weight driven forward.

4. A slipping of the tails of the skis is necessary in a parallel turn. Too much slip will result in overturning. Slipping of the whole ski sideways is caused by not enough angulation (edging). Too much sliding of the tails of the skis is caused by lack of weight shift forward on the skis and by too much of an abrupt up motion. The up and forward motion should be gradual in order to result in a carved turn.

5. In a traverse or linked parallel turn, lack of enough lead with the uphill ski will cause a crossing of the skis. Too much lead will not permit the ankles and knees to work together. Just enough lead should be present to prevent the uphill ski from crossing over the downhill ski. In a snowplow turn, crossing of the ski tips is often caused by pressing the knees inward instead of down and forward.

Teaching Beginning Skiing Using Five-Foot Skis

BARBARA MACDONALD

Miss MacDonald received her M.A. degree at Michigan State University, East Lansing. She teaches skiing and coaches the ski team at Colby Junior College, New London, New Hampshire. She is a classified veteran racer and is certified as an International Canadian Ski Instructor. The following article is a condensed version of a project done by Miss MacDonald to complete her masters degree at Michigan State.

The purpose of this study was to compare the progress of beginning skiers using five-foot skis with beginning skiers using standard length skis. The achievement of the skiers was measured by their ability to demonstrate form in the execution of a series of skiing skills.

The ski length recommended for the adult beginning skier has been an ever-present controversy among ski instructors, designers, and technique specialists. Presently, there is a trend toward shorter skis for recreational skiers. This trend is due to the changes in the design, materials, and construction methods used in the manufacturing of skis. Leading American ski manufacturers have added to their lines wood and metal four and five-foot skis designed for adults. The recent advances made in the manufacture of skis have improved the following characteristics of all length skis: stability, tracking, turning ease, and edge control.

The shorter the ski, the easier it is for the beginner to maneuver his legs and feet, and control his skis. The shortest skis on the market are 2½ feet long. These so-called "shortee skis" restrict the beginner to very flat, mogul-free, packed slopes. The skier must use a foot-twisting technique to turn the skis.

Skis measuring six feet and longer offer the skier more speed, stability, edge control, and a smoother ride over uneven terrain. The turns are made by unweighting the skis.

The five-foot skis were selected primarily because this was the shortest ski that would permit the adult beginner to be taught a technique used in teaching a skier on standard length skis. Due to the demands of the technique which was taught, skis less than five feet in length would not suffice.

Methodology

All of the subjects were women students participating in the required physical education program at an Eastern Junior College. Within both groups there was a diversity of height, weight, and motor ability test scores. All of the subjects were beginners.

The experimental subjects were given five-foot skis and bindings. The control subjects used skis of their own choosing. Their skis ranged in length from five feet seven inches to six feet three inches.

The experimental and control subjects were taught in the same classes. At the termination of eight lessons, all of the beginning skiers were rated by three judges on their ability to demonstrate the following skills: straight run, snow plow, snow plow weight transfer, snow plow turns, stem turns, elementary parallel exercise, and parallel turns.

Results

The data was computed from the scores obtained from 15 subjects using five-foot skis and 34 subjects using standard length skis.

The results of this study show that the subjects using the standard length skis had a mean score of 98.50, while those using the five-foot skis had a mean score of 91.93. The students' "T test" was computed. The results indicate that there was no significant difference in the mean scores of the two groups at the .05 level of confidence.

Conclusions

The following conclusions have been drawn after a study of the data.

1. It appears that the scores were not significantly affected by the length of the skis.
2. Significant improvement appears to be made within each group regardless of the length of skis.

Four Tips for Safer Skiing

JULIE GREENE

Miss Greene is currently dean of women at Fisher Junior College, Boston, Massachusetts. Prior to her present position, she was director of the ski program at Colorado State University in Fort Collins. She has coached several college ski teams in the past 10 years and is classified as a veteran B racer. Miss Greene is a certified ski instructor.

Most accidents in skiing can be prevented by common sense and adequate preparation. Statistics show that far too many skiers travel to the slopes directly from a soft office chair or its equivalent, go immediately to the top of the mountain on a cold chairlift, and foolishly try a trail that is unsuited to their abilities. Disaster often ensues.

Let's face it, skiing is a vigorous sport with an element of danger, but the danger of injury is greatly diminished through the use of good judgment and intelligent action. The observance of four simple rules will help eliminate much of the danger without removing the exhilaration and adventure that are so much a part of skiing.

1. *Exercise regularly before and during the ski season.*

It is never too soon to start conditioning exercises. Many people feel that it is soon enough if they start around Thanksgiving. Ten or 15 minutes a day will do wonders for you and give you the added bonus of eliminating much of the unpleasantness of a multitude of aching muscles after a hard day on the slopes. A good program of exercises emphasizing the leg muscles is helpful. There are several special ski exercise programs available. One good exercise is that of stair-climbing, perhaps two stairs at a time. Once you start the program, stick to it faithfully.

2. *Warm up before you start down the first time.*

After riding to the slopes and then riding a cold lift to the top of the slope, your muscles are understandably cold and will not function as they should. A dozen kick turns with a little climbing before starting down will condition your legs for the first run. A good exercise for flexibility is leaning over your skis to touch the ski tips with your hands, elbows, or head (rather challenging, too!)

3. *Do not ski on trails or slopes that are beyond your ability.*

We hear this admonition often, yet how many times does it go unheeded by skiers who seem to lack good judgment.

Besides the obvious hazard of losing control, we tend to stiffen up on slopes that we can't really handle. Thus, we fall more often and are more susceptible to injury.

4. *Use a release binding that is adjusted correctly.*

This is like an insurance policy. Release bindings are not foolproof, but any inconvenience and expense that they may cause are far more than repaid if they prevent just one break or sprain.

One added fact—when you buy a new release binding learn how it operates and how it should be adjusted for the greatest safety. Too many people tighten the binding so much that, should they take a bad fall, it would fail to release.

Equipment Advice for the Beginning Skier

BARBARA MACDONALD

Miss Macdonald received her M.A. degree at Michigan State University, East Lansing. She teaches skiing and coaches the ski team at Colby Junior College, New London, New Hampshire. She is a classified veteran racer and is certified as an International Canadian Ski Instructor.

The equipment used by a skier includes boots, bindings, skis, and poles. The beginning skier should buy equipment suitable to his level. Often a beginner will purchase equipment designed for skiers who have mastered the fundamentals of skiing. Do not be misled into thinking that skis and boots which are worn by instructors and racers will hasten your progress in learning to ski. Frequently, the reverse takes place.

With the modern technology used in the manufacturing of skiing equipment, today's equipment is outdated in four or five years, or perhaps less time. If you want to ski the latest technique, you must have modern equipment. The design, materials, and construction used in the finished products dictate the techniques which are taught. They enable the skier to go faster than ever before with less motion and less risk of bodily injury.

The boots are one of the most important items of equipment. This is because the feet turn the skis and turning gives the skier control of speed and change of direction. Boots are designed for men, women, and children of all levels of skiing competency. If you buy a new pair of buckle boots, you will be buying fiberglass, plastic, leather, or a combination of two or more of these materials.

Your boots may be your most expensive item of equipment. Select a boot for your level of skiing ability, as well as for durability, support, comfort, warmth, and convenience.

For proper fit when trying on boots, it is important to wear long underwear, wool stockings, and ski pants. Dress as you would for a cold day of skiing. Remember that all of this attire is worn around the top of the boot if not completely inside the boot.

The selection of bindings should be made just as diligently as the selection of boots. The two cannot be separated in order of importance to the skier's safety. It is strongly recommended that you do not choose the toe designed by one manufacturer and the heel of another. Most bindings are engineered as a toe and heel unit.

The step-in varieties are presently the most popular and perhaps the safest for the beginner. A good bir ding will outlast your skis and boots.

Bindings will function to the manufacturer's specifications only if they are mounted and adjusted properly. The skier must understand the principles of release and the methods of adjusting the bindings. If the boots wear down, or the bindings are damaged in any way, have them repaired immediately. As the beginner progresses to the intermediate level and begins to ski faster on rough terrain, the bindings may need to be adjusted to prevent them from releasing before the skier falls. Injured limbs are expensive, inconvenient, and painful.

Most skiers spend more time selecting skis than selecting boots or bindings. Remember, the foot turns the ski and the bindings release the skier in the event of a serious fall.

Metal, plastic, and fiberglass skis are expensive and are designed for the intermediate through the racing levels.They have a fast running surface and are easy to turn but often, the skis are too fast for the beginner and run away with the skier.

If possible, *before buying*, rent wooden or metal skis that *do not* have a plastic combination bottom. Renting skis will permit you to try different lengths.

Presently, there is a trend toward shorter skis for recreational skiers. For the beginner, it is a rule of thumb to measure for ski length in the following manner: stand with the arm outstretched over head and the tail of the ski on the floor; the tip of the ski should touch two or three inches below the wrist. At the beginning level, a ski too long for your body weight, physical strength, and coordination will be more detrimental than a ski that is too short.

The least important and least expensive item of equipment are the poles. The important point in selecting poles is to get the proper length. Poles are measured for the recreational skier as follows: turn the pole so the end of the grip is resting on the floor and bend your arm at the elbow so the lower arm is horizontal to the floor; now you should be able to grip the pole just below the basket. At the beginning level, the skier will be using the poles only as an aid when walking and climbing.

With the exception of your bindings and poles, as your skiing ability improves you will want to change your equipment to meet the demands of your skiing level.

Downhill Racing in Women's Ski Competition

GAIL A. BIGGLESTONE

Gail Bigglestone is assistant professor, coordinator of the ski program, and coach of the women's ski team at the University of New Hampshire, Durham, Certified by the Professional Ski Instructors of America and the Canadian Ski Instructors Alliance, she is chairman of the DGWS skiing committee and a member of the United States Collegiate Sports Council skiing committee.

The nature of downhill racing and its demand on the skier for extensive conditioning and training are sufficient reasons for giving extra consideration when including this event in women's ski competition. Downhill is an exciting event and a great challenge to a racer's skill. It can however, be a hazard to skiers if certain guidelines are not carefully observed.

Downhill racing is a test of skill, endurance, and courage. The course includes a variety of terrain such as bumps, schusses, steep pitches with long outruns, and multiple bumps. Control gates are placed throughout the course to minimize the hazards which could occur at high speeds. At such great speeds, dangers are obvious. Proper course preparation and selection of terrain can reduce the dangers of downhill skiing significantly. If control gates are properly placed and good terrain is selected, the racer will be kept from attaining speeds which are impossible to ski safely. It is important that the course be laid out by a course setter with racing experience and good judgement. A course set without proper regard for the terrain and skill of the skier can be treacherous.

Another solution to reduce the dangers in downhill skiing is to require all racers to be in top physical condition. This means participating in an extensive and regular conditioning program beginning in the fall with preseason exercise. The preseason conditioning program should include exercises for strength, endurance, flexibility, and balance. Jogging, sprinting, and playing soccer are excellent conditioners. Once the season arrives, racers should begin practicing and training on snow, gradually working up to fast speeds over carefully selected terrain.

Training on a downhill race course is a must. Unlike slalom and giant slalom, a racer trains and practices on the actual downhill

course before the race. It is important for safety during the race for each competitor to memorize the course slowly, picking out her best "line," the smoothest, shortest line which she thinks she can hold at top speeds. After she has established her line and has practiced the most difficult sections at top speeds, the racer should be required to practice the course nonstop. In addition to picking a good "line," training on the course builds confidence in the racer, which aids in successful performance in high speed skiing.

A downhill racer must be a very advanced skier. At such speeds, there is no time to think about one's skiing technique. It must be a part of the skier and automatic at fast speeds over bumpy terrain. In addition, downhill racing requires "keeping your cool" at top speeds, quick recovery control, confidence, and the ability to relax under great physical and mental pressure.

Presently, most downhill events – regional, national, and international – are publicized through district ski associations and sponsored by ski areas and clubs. If a downhill event is planned, make sure that the skiers are in top condition and that a skilled course setter is in charge. This will keep speeds at a level which can be handled by the caliber of skier competing and avoid unnecessary hazards.

Cross-Country Skiing— A Challenging Sport For Girls and Women

ANNE METTE VRALE

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The term *skiing* is still considered synonymous with downhill skiing by most Americans, whereas *Nordic skiing* usually is associated with jumping and cross-country. Time has come, however, to accept the two Nordic skiing events as becoming increasingly popular in the United States. Since ski jumping is restricted to male competitors only, girls and women will have to concentrate on cross-country skiing along with alpine sports.

Although women's cross-country racing has been included in the Olympic Games several times, the United States was not represented internationally by a cross-country team until the 1969-1970 World Championships in Czechoslovakia. There are reasons to believe, however, that this sport will appeal to greater numbers of American women, as it does to European ones, if more schools and universities include cross-country skiing as part of their athletic program.

Cross-country racing as a women's sport suffers from the same prejudice as do all other physically strenuous activities, namely, that women who enjoy the sport assume they will acquire hyper-developed muscles. A good cross-country skier, however, needs coordination and skill in addition to endurance and strength. Anyone who has watched the Swedish Olympic double-champion Toini Gustafson in a race must admit that strength, gracefulness, and feminity are a possible combination for a woman cross-country skier.

Procedure for Organizing a Cross-country Race.

The course. Any coach or teacher who plans to sponsor a cross-country race for girls or women has to start with the most important factor—the course on which the competitors are going to race.

No cookbook contains a recipe for making a good course. The sponsor will partly have to use her imagination when selecting the site and pattern of the track. Keep in mind that cross-country racing should be competition in endurance and technique rather than a measure of arm strength! In other words, long and steep uphills should be avoided, and a fairly level course with small ups and downs is preferable. This is especially important if the racers are beginners who might easily be scared away from further racing.

The experience of the skiers will also determine the length of the course. International course distances are 5 kilometers (approximately 3.5 miles) and 10 kilometers (approximately 7 miles) for women seniors and 3 kilometers (approximately 2 miles) for juniors. These distances, however, should be shortened for inexperienced racers because long-distance racing is discouraging if endurance and technique are not adequate. On the other hand, the course should not be so short that the race develops into a breathtaking sprint. The minimum racing distance suggested for juniors is 1 to 1.5 miles and 2 miles for seniors.

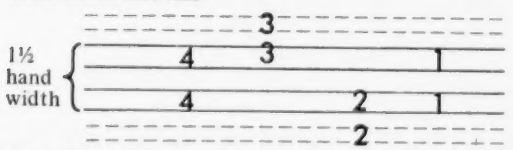
When planning the course, the altitude differences within the course must correspond to the length of the race. The following are suggested rules for races of 3 kilometers and 5 kilometers: In a 3 kilometer race, the altitude difference between the highest and lowest point in the course must not exceed 60 meters and one continuous uphill must not exceed 40 meters in altitude difference. For a 5 kilometer race, the corresponding maximum altitude differences should be 100 meters and 75 meters.

When selecting the site of the course, it is an advantage if an already packed track can be used. In areas where cross-country skiing is popular, one or more tracks that can be worked into a suitable closed course always exist. Combining tracks can be added where they are necessary. Don't worry if the course in this way gets to be only one mile or less because the racers can run the course several times if longer distance is desirable. If the course is to be made in an area where no tracks exist, choose an area that is fairly open so that the racers will not have to zigzag between the trees.

Packing the course is a necessity whether the purpose is to make completely new tracks or to improve old ones. If an already existing trail is used, most of the work will consist of improving the tracks to obtain two hard packed tracks and make room for the poles (by "two tracks" is meant one track for each ski). Add combining tracks where necessary and remove branches and similar objects that may slow down the racers. The course must be clearly marked with colored bands. Additional marking is necessary at all points where the course separates from the main trail.

When new tracks have to be made in fairly deep snow, the following procedure is common: a minimum of four people with skis

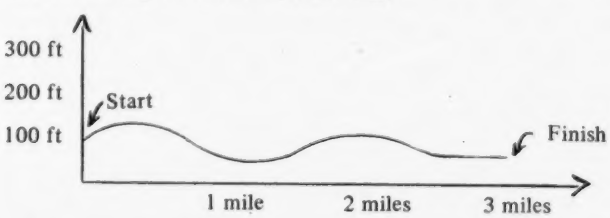
work together so that the first person makes two tracks with a distance of about one and one half hand width. The second skier follows with left ski in the right track and makes another track with her right ski. Number three keeps her right ski in the left track, making another track with her left ski. The last person will follow exactly the two main tracks made by number one. As illustrated, the team works like this:



Make two main tracks for the skis and tracks to the far left and far right for the poles.

The width between the ski tracks is important. Most people tend to make this area too narrow.

Finally, when the course is prepared and ready for the race, the competitors should be allowed to study the course to plan the race. In addition to opening the course to limited practice, the altitude differences might be illustrated like this:



From the illustration of this particular course, the racers will know that there are two uphills within the first two-thirds of the course, and that the last part is slightly downhill or level and not very energy consuming.

Individual racing and timing. Once the course is prepared and ready for the racers, the remaining part of the cross-country race is fairly easy to organize. In contrast to a downhill race there are no forerunners, very few checkers, and timing is relatively simple. It is preferable to let the skiers start at intervals of half a minute or one minute. Each racer starts with a countdown of "5-4-3-2-1-go!" The ski boots of the racer should not pass the starting line before the "go" signal. Time is usually measured in seconds, except for more advanced races when tenths of seconds are used. In most races, therefore, a wristwatch counting seconds is adequate for timing. A

cross-country race usually starts and ends at the same point, so that although two or three timers are preferable, one person may handle the timing if there is a shortage of helpers. Each racer's starting time is marked down before the race. By subtracting this time from the time when the racer passes the finish line, the actual racing time is found.

The starting order is usually determined by lottery, although in more advanced races a common procedure is to let the best skiers start at the end. It is challenging for a good racer to know that there are many competitors ahead of her in the track, and the mental support that is achieved by passing one skier after another may help a good contestant race with maximum effort.

Suggested rules. Since cross-country skiing is a unique competitive sport, some specific rules must be established in addition to adapting some of the rules from downhill skiing and other sports. These rules must cover "passing" and the exchange of skis and poles during a race.

Whenever a fast racer from behind overtakes a slower racer, the latter must clear the track and let the better skier pass upon the call, "track!" The appropriate distance that should be between the two contestants when "track" is called will vary according to the slope of the track at that point, because a runner going fast downhill will have to warn the racer ahead at an earlier point than one who is struggling uphill. The call of "track" should be made when the faster skier is certain she can pass the slower one within a few seconds, and a maximum distance of five to six feet with modifications for uphill and downhill is suggested. Upon such a call, the racer ahead should step to the side immediately. If the call is neglected several times, the racer being passed should be disqualified.

It is internationally accepted that a contestant may have broken poles replaced during a cross-country race. Only one ski, however, may be replaced during the race. To assure that the racer finishes with at least one original ski, in more advanced races the procedure is to mark both skis just prior to the start.

The problem of waxing skis plays an important role in most races. A contestant may stop and change wax during a race if the original wax is unsatisfactory. The rule above, on exchange of only one ski, partly reflects this common waxing problem. If the rule did not exist, a contestant with bad wax might prefer to have both her skis exchanged instead of performing the time-consuming task of rewaxing her skis.

The rules above are only suggestions for organizing individual races. If and when national DGWS rules are established for cross-country skiing, international as well as national rules for women must be considered and perhaps eventually adopted.

Relays. If time permits, a relay should always be included in a cross-country meet. A relay, if conducted correctly, always allows for maximum excitement.

A relay provides for a unique competition because the first racer from each teams starts at the same time. Therefore, team members and spectators always know which team is leading at any moment during the race. In order to make such a "mass" start possible, a starting area wide enough for all the starters and a length of at least 50 meters must be packed thoroughly to allow the starters to compete on equal terms to obtain a good position when forced into the regular course. It is an advantage, but not a necessity, if the course contains two double-tracks, allowing two racers to continue to compete side by side for a while. When the starter on the team has run through the course, the exchange to the next racer is performed by a clap on the shoulder. Batons or other relay objects are never used in cross-country skiing.

If all team members have run properly through the course, then the first team to pass the finish line should be declared the winner. Timing the relay, then, is not absolutely necessary. However, it is challenging for the racers if their own time, as well as their team's time, is measured.

A women's relay team should consist of three racers. If there is a shortage of racers, two girls may constitute a team. More than three racers is not recommended because the great variation in racing capacity that always exist among girls and women will result in huge gaps between the teams by the end of the race. No excitement is left in a relay if the teams cross the finish line with one or more minutes between each team.

Suggested sequence of racers in a relay is: let the most aggressive girl with fighting spirit be the starter on your team; place the weakest racer in the middle; and let the safest –usually the best – racer be last.

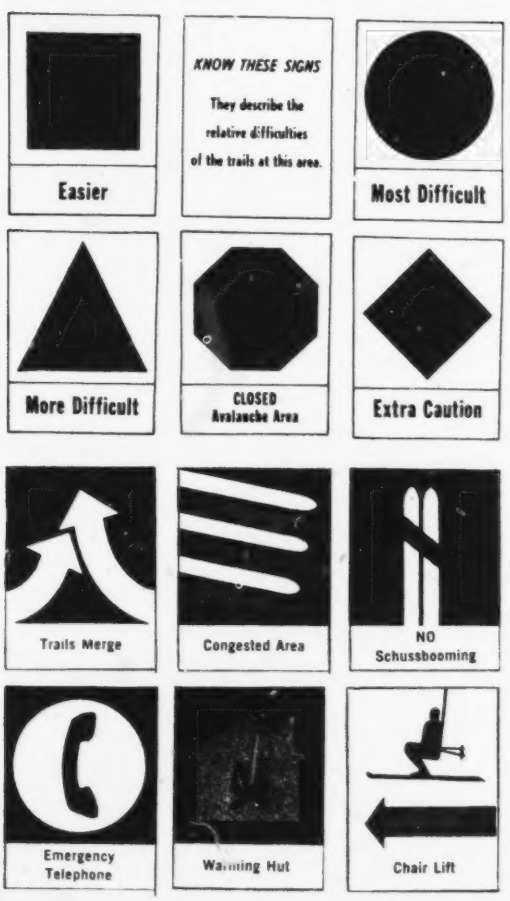
Equipment. The cost of cross-country ski equipment is negligible compared to downhill equipment. All schools or colleges interested in racing for girls and women should be able to furnish at least five pairs of skis with poles and boots to increase interest in cross-country skiing. Skis and boots should be the racing type or a combination of touring and racing. Racing skis are slightly broader and heavier than touring skis, and are equipped with hardwood edges. Toe bindings are strongly recommended. Although ordinary ski poles may be used, the lighter and longer bamboo or fiberglass cross-country poles should be furnished if funds permits.

Hopefully, in the future more schools and colleges will start encouraging cross-country racing as part of their athletic program for girls and women. The problems that exist because of the lack of

equipment and racing opportunities will diminish in time. Then, more girls and women will learn to appreciate this sport, which contributes to the development of mental as well as physical strength.

KNOW THESE SIGNS

Adopted by the National Ski Patrol System



Skiing References

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Books:

BEATTIE, BOB. *My Ten Secrets of Skiing.* New York: The Viking Press, 1968. The former U.S. Olympic Coach presents racing techniques from the very basic principles to the most sophisticated.

BRADLEY, DAVID; MILLER, RALPH; and MERRIL, ALLISON. *Expert Skiing.* New York: Grosset and Dunlap, 1963. A book for Alpine and Nordic skiers at all levels. Covers technique, training, and competitive skiing. Well illustrated.

BRADY, MICHAEL. *Nordic Touring and Cross-Country Skiing* Hackensack, N.J.: Distributed by Arthur Vanous Co., 1969. A handbook for the recreational skier. Covers technique, equipment, and waxing. Illustrated.

CALDWELL, JOHN R. *The Cross-Country Ski Book.* Brattleboro, Vt.: Stephen Greene Press, 1968. The U.S. National coach presents technique, selection of equipment, waxing guides, and training for touring and racing.

CASEWIT, CURTIS W. *Ski Racing: Advice by the Experts.* New York: Arco Publishing Co., 1969. An excellent book for the racer. Covers equipment, technique, training, and waxing for international alpine and Nordic events.

DUDLEY, CHARLES. *60 Centuries of Skiing.* Brattleboro, Vt.: Stephen Daye Press, 1935. An extensive history including prehistoric skiing and Olympic records.

EDITORS OF *SKI MAGAZINE. The Skier's Handbook.* New York: Harper & Row, Publishers, 1967. Includes photos and action drawings to illustrate explanations in progressive steps for self-instruction in the American technique.

ESTIN, PETER G. *Skiing the American Way.* New York: John Day Co., 1964. A complete analysis of the American technique from the beginning to the advanced level. Included sequence, stop-action photographs to illustrate each step. Excellent tips for skiing difficult snow and terrain.

GEMSCH, NORBERT and JULEN, AUGUST. *Modern Skiing.* Translated by Peter Lickfold. New York: Barnes & Noble, Inc., 1965. Presents a progression of skiing techniques in sequence of

movements and describes them in terms of basic rules of mechanics.

ISELIN, FRED, and SPECTORSKY, A. C. *Invitation to Modern Skiing.* New York: Simon & Schuster, 1965.

JAY, JOHN; O'REAR, JOHN; and O'REAR, FRANKIE. *Ski Down the Years.* New York: Award House, 1966. A nostalgic and colorful journey through more than 30 years of skiing in America. Outstanding color and black and white photographs.

JOUBERT, GERGES and VUARNET, JEAN. *How To Ski The New French Way.* New York: Universal Publishing and Distributing Corp., 1969. A complete analysis of the French Ski technique. Illustrated.

O'CONNOR, LORNE. *The Canadian Ski Technique.* Toronto and Montreal: McClelland and Steward Ltd., 1968. A complete analysis of the Canadian ski technique. All descriptions have accompanying photographs and illustrations.

ROBINSON, NEIL. *The Complete Ski Handbook.* New York: Arco Publishing Co., 1965. Includes skiing history, equipment, clothing, and illustrated descriptions of all levels of skiing.

SAILER, TONI. *Ski with Toni Sailer.* New York: Sterling Publishing Co., 1965. Covers various aspects and techniques of skiing from equipment and preseason conditioning exercises to the first run, the snow plow, and traversing and sideslipping to parallel turns, Wedeln, and racing. Sequence photographs.

Skiing Yearbook 1968. New York: Ziff-Davis Service Div., 1968. Encyclopedia of skiing information and knowledge, with facts and figures about racing records, basic analysis of major skiing techniques, figures about materials on the market, and literature on 1,000 skiing areas.

TAYLOR, CLIFF. *Ski in a Day.* New York: Grosset & Dunlap, 1964. Amusing book written by the designer and missionary for short skis. Contends that skis 2½ feet long are an ideal means for the skier to make parallel turns from the moment he steps into bindings. Contains information on how to make and use them. Well illustrated in fundamentals.

THE PROFESSIONAL SKI INSTRUCTORS OF AMERICA, INC. *The Official American Technique.* Salt Lake City: The Quality Press, 1969. A complete analysis of the American Ski technique. All descriptions have accompanying illustrations.

WALLACE, WILLIAM N. *The Young Sportsman's Guide to Skiing.* Camden, N.J.: Thomas Nelson, Inc., 1968. Excellent guide for presenting the essential techniques of skiing simply and easily. Methods of safety are clearly explained.

BEATTIE, ROBERT. *Golden Buide to Skiing: A Complete Course of Instruction in the Modern American Ski Technique.* New York: Golden Press, 1966.

Periodicals:

Ski Incorporating Ski Life. Universal Publishing and Distributing Corp., 800 Second Ave., New York, N.Y. 10017. Subscription $3 per year.

Ski Racing. 1801 York, Denver, Colo. 80206. Subscription $4 per year.

Skier. Eastern Amateur Ski Association, 20 Main, Littleton, N.H. 03561. Subscription $2 per year.

Skiing. Ziff-Davis Publishing Co., 1 Park Ave., New York, N.Y. 10016. Subscription $3 per year.

Snow. The National Magazine of the United States Ski Association, 1565 N. Woodward, Bloomfield Hills, Mich. 48013. Subscription $3 per year.

Skiing Visual Aids

Revised by DIANN LAING
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Instructional Films:

American Ski Technique. sd., color (3).* Official instructional film of skiing from the professional Ski Instructors of America.

The Austrian Technique. 16mm., sd, b&w, $10 (12). Demonstration of technique with progression from snow plow to Wedeln. Stop action and slow motion make this an excellent instructional film.

Chevrolet on Skis. 27 min., color (8). The film emphasizes the importance of proper conditioning, and features safety tips for both the novice and the experienced skier.

Ernie McCulloch Teaches Skiing. 16mm., 30 min., sd., b&w (10). Available to organizations as a moneymaking project. Rental based on membership. Arranged in three 30-minute parts for beginners, intermediates, and advanced. This series features the teaching methods of Ernie McCulloch and gives hints on selection of equipment; fundamentals of walking, climbing, and turning; and techniques of racing and slalom.

Film Strip Series. 35mm., 33-1/3 rpm records, color or b&w. Purchase price $56.25 with record, $48 without record (1). These filmstrips illustrate progressive ski skills of the American ski technique from beginning through advanced levels. Gives tips on equipment and safety rules.

Let's Go Skiing. 16mm., 27 min., sd., color, free loan (2). Canadian skiers in the high country. Includes snow plow, slalom run, and stem christie, with emphasis on Edeln technique.

Let's Ski. 16mm., 15 min., sd., color, $5 per showing (6). Instructional film based on Neil Robinson's teaching technique, featuring Neil Robinson. (Shipped on reel with *P.S. Having a Wonderful Time*, to be shown as a unit. Total time 22 min.).

Man in Flight. 27-1/2 min., color (7). The world's top ski jumpers perform sensationally during the 1969 competition in Europe. Stop-action cameras and slow motion photography reveal a new insight into this thrilling sport.

New England Powder. 16mm., 12 min., sd., color, $10 (11). Wedeln demonstrated in slow motion by the Sep Rusch ski instructors at Stowe, Vt.

*Numbers in ( ) refer to film distributor listed at end of article.

Rules of the Slopes. 20 min., color (8). A beautifully photographed film on the National Skier's courtesy code. Filmed in three of America's great ski areas, it features plenty of fine skiing plus some humorous sequences on "how not to ski."

Ski with Buick. 16mm., 29 min., color (7). Fine ski instruction film starring Stein Eriksen. Some of the best U.S. Skiing in New England, Midwest, and Rocky Mountains. Presents new American system of teaching.

The Skiers. 16mm., 90 min., sd., color, $10 per showing (12). Other Warren Miller films available (in part): *Aspen Powder, Focus on Northwest Skiing, Sound of Skiing, The Clown Prince of Skiing, Spills and Thrills, Racing for a Decade, Vail Means Powder Snow, Colorado Skis, Mammoth Mt. Ski Champs, Great Ski Falls, This is Skiing,* and many more.

Skiing a Go Go. 16mm., sd., color, $1.50 (12). Learning to ski by the French National Ski School System. Display of glacier skiing by two French instructors.

The Story of the Ski Patrol. 16mm., sd., color, free loan from the Schlitz Brewing Co., 235 W. Galena, Milwaukee, Wisc. 53212. Filmed at Vail and Winter Park. Depicts the work of the patrolman in promoting skiing safety and in providing first aid and rescue on the slopes.

The Subject was Skiing- The Story of 8th Interski. 28-1/2 min., color (7) Every three years, representatives from the International Federation of Ski Instruction (Interski) meet to exchange views and ideas on teaching methods. Their 8th Congress was held in Aspen, Colo. and is thoroughly covered in this film. Ski instruction and performance at its best.

The Technique of Short Skis. 16mm., 15 min., color, $10 (12). Shows techniques of the short ski in detail.

To Give Aid. 16mm., 25 min., sd., color, available from National Ski Patrol System, 828 17th St., Denver, Colo. 80202. Rescue and first aid for simple fracture, severe bleeding, compound fracture of lower leg, back and neck injury, head injury, frostbite, shoulder dislocation, and loss of breathing. Covers rescue from approach to victim on hill to treatment in patrol room to loading into a car. Emphasis on hill first aid.

Wedeln and Wedeln on One Ski. 16mm., 20 min., sd., b&w (9). The new technique in skiing, performed by Peter Estin at Sugar Bush Valley.

Wedeln-The New Technique in Skiing. 16mm., 25 min., sd., Free loan (4). Demonstrates the Austrian Ski School technique at the International Ski Teachers' Conference at Val d'Isere, France.

White Badge. 16mm., 20 min., color, $10 for U.S. Ski Team fund (3). Developed for teaching skiers and instructors. Progresses through each stage of the American ski technique. Excellent.

Winterday. 27-1/2 min. (13). This film is designed to show the excitement of skiing–to make the audience want to be on the slopes.

The World Ski Technique. 16mm., 30 min., color, $10 for U.S. Ski Team fund (7).

World Ski Techniques. 16mm., 45 min., sd., color, (3).

Racing:

Attack!–The Ski Racer. 26-1/2 min., color (7). This is "THE" film on ski racing. It shows what it takes to make a top world competition ski racer and shows the techniques of the world's best Alpine skiers through some of the most impressive ski action ever filmed.

Europe '69 . . . The U.S. Ski Team in Action. 26-1/2 min., color (7). 1968 U.S. Ski Team Campaign in Europe prior to Olympics. Includes Billy Kidd, Spider Sabich, Rick Chaffee, Kiki Cutter, Judy Nagel, and Jean-Claude Killy.

Karli- The World of Karl Schranz. 38-1/2 min., color (8). This film follows Schranz through the major competitive events of the world circuit.

The Lonely American. 16mm., 22 min., color, free loan from United States Ski Association, The Broadmoor, Colorado Springs, Colo. 80906. 1964 Olympics, 1965 American International Team Race.

Once in a Lifetime. 16mm., 50 min., sd., color, $20 (5). F.I.S. Races in Val Gardena, Italy, Febr. 1970. Official F.I.S. Film.

The Secret Race. 16mm., 55 min., sd., color (13). 1966 championships at Portillo, Chile.

Ski the Wild West. 20 min., color (8). Here is the International Ski Team in action as they compete in the final race of the 1967 World Cup Series. The film also shows the night life activity at Jackson Hole and displays the scenic beauty of the Teton Village area.

Ski Racer. 16mm., sd., color, $5 (5). Ski racing, a view of the sport through the eyes of the racer.

The Taste of Victory. 26-1/2 min., color (7). The U.S. Ski Team takes on top European skiers on home ground . . . at Aspen, Sun Valley, and Heavenly Valley. Here are the world's top skiers in action under pressure of World Cup Competition.

The Technique of Ski Racing. 16mm., 15 min., color, $10 (12). Studies in slow motion. How to run gates, how to pre-jump bumps. Views of the Nationals show champions at their best. Features Sailer, Werner, Reiler, Allais, and Pravda.

Film Distributors:

(1) Association Films, 561 Hillgrove Ave., LaGrange, Ill. 60625
(2) Canadian Travel Film Library, 680 Fifth Ave., New York, N.Y. 10019
(3) Hart Ski Mfg. Co., 630 Pierce Butler Rte., St. Paul, Minn. 55104
(4) Henke Ski Boot Co., 132 Montgomery St., Scarsdale, N.Y. 10583
(5) The Lange Co., P.O. Box 308, Broomfield, Colo. 80020
(6) Manor Studies, Inc., 230 North Ave., Westport, Conn. 06880
(7) Modern Talking Picture Service, 1212 Avenue of the Americas, New York, N.Y. 10036
(8) Modern Talking Picture Service, 2323 New Hyde Park Rd., New Hyde Park, N.Y. 11040
(9) Specialty Importers, Inc., Box 27, Scarsdale, N.Y. 10583
(10) Storm Productions, Inc., 72 East Ave., Rochester, N.Y. 14604
(11) Vermont Development Commission, Montpeilier, Vt. 05602
(12) Warren Miller Productions, Box 536, 505 Pier Ave., Hermosa Beach, Calif. 90254
(13) Head Ski Co., Inc., 15 W. Aylesbury Rd., Timonium, Md. 21093

Let's Teach Curling

VERA WILLIAMS

Dr. Vera Williams is an associate professor of Physical Education at Wisconsin State University-Oshkosh. She has taught curling in the public schools of Michigan and Wisconsin and is interested in encouraging physical educators to include curling in their curriculums.

Curling is a game that knows no generation gap. From 8 to 80 years of age one can learn to curl and enjoy it. It is a lifetime winter sport in which students, families, couples, or social groups can compete for fun and enjoyment. From the educational viewpoint, curling can serve as an excellent tie between the school and community especially if one involves old time curlers in assisting with this sport. So bundle up, grab your rock and broom and let's teach curling!

If the teacher uses ingenuity, she may begin to teach curling even before it is cold enough to make a sheet of ice. Mark off a sheet on the gym floor and lay out a diagram of the game. Bowling balls may be used to give the students the feel of the rock and to teach them how to score the "ends" of the game. Thus, when cold weather arrives, the students are ready to play. They will know the terminology and rules of the game as well as game procedures, and they can spend ice time in developing the skills and techniques.

Curling is played on a sheet of ice that is as level as it is humanly possible to make and keep it. The surface of this ice is purposely roughened a little by a process of sprinkling it with water-called "pebbling." This pebbling makes the stones run much more easily. The sheet should be 142 feet long. Near each end of this sheet of ice a small board is sunk to furnish a foothold for the curlers when they deliver their stones. The ice is hollowed out a bit in front of the boards to afford a surer foothold. There are two such hollows, called "hacks," one in front of each board, for right-handed and for left-handed players. Each hack is placed three inches on either side of a "center line" drawn midway between and parallel to the sides of the sheet of ice. The distance between the two pairs of hacks is 138 feet.

Upon the center line and a distance of 12 feet between each hack is a point called "the tee." Around these two tees concentric circles are drawn having diameters of 1, 4, 8, and 12 feet. The area within the "12 foot" outer circle is called "the house," and unless some

part of a stone touches or is within this 12 foot circle, it cannot be counted or scored in any inning or "end" of the game.

Six feet from each hack a line is drawn at right angles to the center line. It just touches the 12 foot circle and is called the "back line." Any stone that is played or struck so that all of it is beyond (or back) of this line is removed from play and cannot count for score in an "end."

At a point on the center line 33 feet from each hack and 21 feet from each tee, a line is drawn at right angles to the center line. This is called the "hog line" or "hog score." A played stone which fails to cross this line completely, or to hit another stone already in play, is removed from the game as is one which goes beyond the backline.

Still another line is drawn on the ice through each tee and at right angles to the center line. This is called the "sweeping score." Until a played stone reaches the sweeping score, only the players on the side of the player who delivered it are entitled to sweep it, but after it crosses that line, the skips of either side may sweep it. Sweeping is done by specially constructed brooms and its purpose is to keep the ice on the stone's path free from dirt and to make the stones travel farther than they otherwise would.

Equipment

The stones used are made of granite, and each stone has a handle attached to a bolt running through a hole in the center of the stone. The underside of the stone is cupped out so that the stone rests and slides upon a surface comparable to the rim of an inverted saucer. The game gets its name because when the stone is delivered it does not travel in a straight line, but "curls" to one side or the other, depending upon the "turn" or twist the player purposely gives to the stone as she delivers it. The turns are designated as the "in-turn" and "out-turn" and are comparable to the in and out curves of a softball pitcher.

Game Procedure

The game is played between two "rinks" (or teams) of four players each. Each player delivers two stones to each "end" from the hack towards the "house" at the other end of the sheet of ice. The players are called the "lead," "second," "third" or "vice-skip," and the captain is the "skip."

When the lead of the team that loses the toss and hence plays first steps up to the hack, her skip tells her what she wants her to do. All the lead has to do is to deliver her stone in the direction of the skip's broom, and give the turn and the speed, or "weight," as directed by the skip. The other players on the lead's team stand on the sheet of

ice between the two hog lines ready to sweep in front of the stone, when and if the skip so directs.

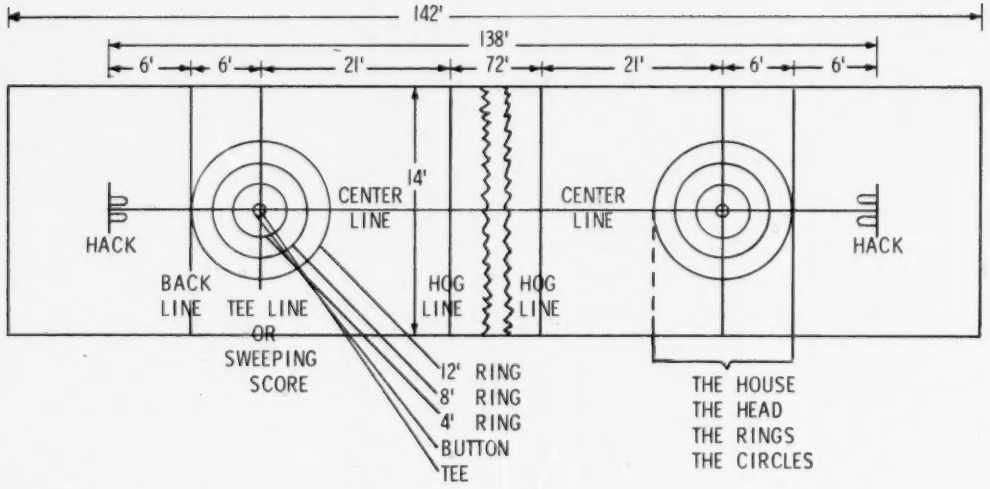
When the first lead's stone comes to a stop, the lead of the opposing team delivers hers as likewise directed by her skip. Then the second and third players follow, playing each of their stones alternately with the second and third players of the opposing rink. Finally, the skips leave their places in the house where they have been directing play, go to the hack at the other end of the sheet, and deliver their stones alternately as directed by their vice-skips.

Scoring

When all four players on both rinks have delivered their stones, an end or inning is completed, and the count for the end is determined. The count or score for the end is determined by ascertaining how many stones of one rink within or touching upon the 12 foot circle are closer to the tee than the nearest stone of the opposing team. Thus the possible score for any one end is anything from zero to eight. The score is zero if the nearest stone of one team is exactly equi-distant from the tee or if neither team has a stone lying in the house.

An entire game consists of a specified number of ends – generally 12 – and the team scoring the most points in the determined number of ends is the winner. If the score is tied, an extra end or ends are played until a score is made.

Curling is a game of tradition. It has been passed down from generation to generation. Its players become imbued with an incomparable spirit that eludes description, for it is made up of courtesy, love of the game, and friendly equality with which all curlers treat each other, regardless of their station or fortune in life. With this idea in mind, let's pass on our heritage-Let's Teach Curling!



THE RINK. Not to scale, but indicating proper dimensions.

Brief Overview of the Organization of Ice Speed Skating

LINDA BABL

Mrs. Babl has acted in the capacity of consultant, coach, and chaperone to the women's world sprint and international teams and was the official representative of the United States team in Germany in 1970. At present she is a doctoral candidate at the University of Northern Colorado, Greeley, Colorado.

Racing on ice skates can be a thrilling and rewarding experience for skaters of any age. This sport was originally practiced on the canals in Holland, but now it is a sport not only participated in by people of all ages but from several countries as well. Speed skating competition has also been a part of the Winter Olympic Games for many years.

Modern speed skating competition was first organized in the United States under the rules of the International Skating Union of America in 1907. Until recently, the Amateur Skating Union of the United States governed all phases of the sport. Now however, American or pack-style racing is controlled by the United States International Skating Association. All state and regional associations are members of these two controlling boards and in turn a number of smaller clubs which function as units to promote the sport and guide the participants are members of the state associations.

Any boy or girl is eligible to register and compete in novice or preliminary races. Practice and enthusiasm are important, and it is not uncommon for a beginner to be in the top ranks winning medals and trophies after a year or two of experience is gained. Joining a local club can benefit a young skater. Local clubs avidly seek members for their roster and are willing to provide assistance in training and conditioning procedures as well as perfecting one's skating stroke and style.

Organization of American Pack-Style Races

There are five official classes for boys and girls in American pack-style ice speed skating. Boys compete only against boys and girls against girls in their respective age classes. The classes change every two years. The following classes are recognized nationwide:

Senior Class	18 years of age and older
Intermediate Class	16-17 years of age
Junior Class	14-15 years of age
Juvenile Class	12-13 years of age
Midget Class	10-11 years of age

The midget class is further divided in some states into:

Pony Class	8-9 years of age
Bantam	7 years of age and younger

The actual age of a competitor on December 31st of each year determines the age bracket in which he competes during that winter season.

The racing distances vary with the class and range from 110 yards for Midgets to 5 miles for Senior men. At least two distances are raced in each meet by each age class. Senior skaters may race as many as 3-4 distances in a one-day meet and 7 in a two-day meet.

Heats composed of 6-10 skaters are arranged by having skaters sign up immediately upon arrival at a meet. Clerks with the assistance of club coaches attempt to balance the competition by placing "seeded" skaters in different heats. Usually those finishing first and second in each heat advance into the semi-finals and in turn the final event.

In each approved and sanctioned meet, points are scored only in the final event for each distance and not in the heats. Scoring is as follows:

1st place	5 points
2nd place	3 points
3rd place	2 points
4th place	1 points

An appropriate medal is awarded to each skater who scores points in each distance skated in a final race. The total points scored in all final events by each individual skater are recorded and the individual with the highest total number of points in his class is declared the class champion.

Two types of tracks are commonly used for pack-style racing. An indoor racing track is usually 16 laps to the mile and can be contained within the usual hockey playing area of standard dimensions. Outdoor competition is most frequently held on a one-sixth mile oval. Both tracks are oval in shape and the skating surface beyond the markings of the track itself is 20 feet wide. Once the start has been given a skater in pack-style racing may acquire the pole position as soon as he is able to do so without interfering with another skater. Bodily contact of any kind may subject a skater to a disqualification by the referee.

All races finish at the same point in front of the judges' stand. For this reason, some races must start at different locations. An example of this is that 440 yard races which are equivalent to one and a half laps, start half way around the track opposite the finish line. This starting point is also used for the 3/4 mile race which covers four and a half laps of the track.

Organization for Metric Olympic-Style Races

There are no official age classifications in Metric style ice speed skating. Occasionally during competition sponsored by local clubs, skaters are separated into Junior Skaters (those under 18 years of age) and Senior Skaters (those over 18 years of age), however, in official International competition there is no age class difference. All skaters compete in the same class.

As in American-Pack-Style skating, boys skate only against boys and girls against girls, however, each person skates against a time clock rather that a group of other skaters. The main objective of metric skating is to beat all other competitors by having the fastest time for a selected distance. Metric style skating is different from pack-style skating in that the competitor is allowed to skate each distance only once in a scheduled meet. He must not qualify through heats, semi-finals, and finals for points; rather, each time he skates he is awarded points in relationship to the time elapsed during which he skated the selected distance.

Racing distances range from 500 to 3,000 meters for the women and 500 to 10,000 meters for the men. Usually in order to be allowed to skate the longest distance, one must rank in the upper half of the competitors for all other races skated.

Awards for the top three finishers in each event are given as well as awards for the top three overall distances. Points are awarded to all skaters depending upon the elapsed skating time for each of the individual events. The person with the lowest number of points is declared the winner and so on.

The Track

One standard 400 meter oval track is used for metric style competition. The metric track is divided into two 12 foot wide lanes. Since only two skaters participate at a time, each is assigned a starting lane just prior to the race by a random draw of "inner" and "outer" lanes. To ensure the fact that each participant skates an equal distance, a cross-over point has been designated on the back stretch. Each time a skater reaches this point he must change to the opposite lane without interfering with the other skater's progress. For example, during a one lap race each skater will skate one inner and one outer corner.

All races, with the exception of the 1000 meter race, finish at the same point, the end of the home straight away, in front of the judges stand. For this reason, all races start at different locations on the track. All locations are clearly marked and also indicated by the starter and his assistant to all competitors.

The Racing Season

While ice speed skating is chiefly a winter sport, the season for competition extends from late fall to early spring. Outdoor competition is concentrated in a relatively short period of eight weeks in January and February. Indoor competition commences in early November, gives way to outdoor competition when weather conditions are adequate for outdoor ice, and is resumed again in March. A schedule of meets for the ensuing season is usually arranged by each association in October and is published in a program booklet available from the association secretary or from club officers.

Summary

To compete, it is only necessary to come to a skating meet and register in the local skating association. Newspapers usually carry announcements of forthcoming skating meets. A blank may be obtained from the registration chairman at the meet. When registration is completed and the nominal fee is paid (usually $1.00 per season) the skater may sign up in a heat in either the novice or regular division, depending on the meet procedure. A schedule of forthcoming meets and a rule book should also be obtained at this time. It is advisable to become familiar with the rules and regulations early. A skater showing promise and determination will be encouraged by the coaches at the meet and may receive an invitation to join a skating club. The best opportunity for advancement is through club membership.

It is important to realize that each individual must create his own interest and enthusiasm and seek help from there on training and skating methods. Whether one chooses Pack-Style or Metric-Style skating or a combination of both, the benefits of participating in a nationwide and international sport are many, the experiences are thrilling, and the rewards are much more than a mere medal or trophy.

An Analysis of Skill Level for Figure Skating

JUDITH BRANCH JONES

Judith Branch Jones is an instructor and head of figure skating at the University of New Hampshire, Durham, New Hampshire. She is a 1960 graduate of the University of New Hampshire, and since that time has done intermittent graduate work there. In her senior year she made a 16mm color instructional film, "Introduction to Figure Skating."

The most critical problem facing an instructor while teaching figure skating is placing correct skill level at the beginning of the course. This problem is not only common to figure skating but also to many other activities and sports.

In an attempt to breakdown and analyze the skills to be taught at each level I have arrived at what I feel is a sensible condensed program of instruction for figure skating be it for a city recreation program, or a school or college physical education activity.

The terms of beginner, elementary, intermediate, and advanced all have specific connotations to each person be he instructor or student. Therefore, an explanation is needed of each level. During the registration for figure skating prerequisites for each level should be explained, and the progression of skills to be taught at each level should be stated. The student can be placed at the appropriate level of instruction. This insures more efficient teaching, particularly in a limited period of time (i.e., a 5-6 week program meeting 2 to 3 times a week for 50 minutes). Homogeneous grouping is essential if the student and the instructor are to experience success.

The following analysis is the program I suggest. This program has been under constant re-evaluation for 10 years and it provides a great degree of success and expediency in terms of accomplishing the instruction required at each level.

I. Beginning Skating – prerequisite, none. For those students with no knowledge and no skill
   Skills to be taught:
   1. Correct skating posture
   2. Baby stepping
   3. Sculling
   4. Forward stroking

5. Snowplow stop
6. Cutting corners or front cross-overs
7. Instruction in backward skating (may or may not have time for this)

II. Elementary – prerequisite, successful completion of beginning skating course or for student who can stand up on skates and feel secure. Must be able to:
1. Skate forward
2. Balance on one skate
3. Stop
4. Turn – two foot
5. Maneuver backwards

Skills to be taught:
1. Forward inside and outside rolls
2. Mowhawk and/or 3 turn
3. Proficiency in backward skating
4. Back cross-overs

III. Intermediate Level – prerequisite, successful completion of elementary skating or for the student who can perform the following:
1. Forward inside and outside rolls
2. Mowhawk and/or 3 turn (outside to inside threes)
3. Proficiency in backward skating

Skills to be taught:
1. Proficiency in performing forward inside and outside rolls.
2. Back inside and outside edges

IV. Advanced or High Intermediate – prerequisite, successful completion of intermediate skating or for the student who can proficiently demonstrate forward and inside and outside edges and successfully perform backward insides and outsides rolls or edges.

Skills to be taught:
1. Three turn right and left (inside to outside)
2. Inside and outside edges backwards and forwards (you can always review edges especially back edges as they need the most work)
3. Change of edge – outside to inside – inside to outside
4. Forward outside eight
5. Mowhawk turn right and left
6. Ice dancing (if so desired)

Note: Skills that are listed at each level are only those skills that must be covered in the unit. This means that the other "fun things" or free skating skills can be covered at your own discretion and at your own time. For example, bunny hop, two foot spin, spiral,

cutting corners backwards and forwards, waltz jump, Dutch waltz, etc. may be taught in addition to the "must skills." Just be sure you gear these skills according to the ability of the group you are teaching. It would seem reasonable to include at the elementary level a bunny hop, a two foot spin, or a modified spiral with each teacher to improvising as she wishes. Remember, we are still teaching the basics; if they are mastered the rest comes more easily.

Competitive Figure Skating

DEBBIE STOERY

Debbie Stoery has figure skated for nine years and has competed for five years. At present she is a professional instructor in figure skating at the Northbrook Sports Complex, Northbrook, Illinois.

Amateur figure skating is governed, protected, and promoted in this country by the United States Figure Skating Association. The relative abilities of figure skaters are determined by annual competitions. The competitions start with the Regionals (involving several states), and even may lead a skater to the Olympics.

Levels of Competition

To qualify for competition, the skater must pass certain tests. There are 9 tests which involve 64 "figure-eights" – the first being called the preliminary and the last the eighth or gold. On the highest three tests one must also pass a free skating test, which is a solo to music of prescribed length containing specific jumps and moves. If one has passed the first three figure tests and is 12 years old or younger, he qualifies for the juvenile division. The intermediate division is for those who have passed the third test (but no more), regardless of age. The novice division is for those who have passed the fourth, may have passed the fifth, but not the sixth test. To qualify for juniors one must have passed the sixth, but not the eighth test. The highest division, seniors, is open to skaters who have passed all the figure tests.

For Dance there are only three levels– bronze, silver and gold. The dance tests are pre-bronze, bronze, pre-silver, silver, pre-gold and gold. Each one consists of about three dances that must be passed. The pair skating is divided into junior and senior levels, with qualifying tests for each.

In competition, the dance and pair skating have two rounds. In figure skating the figures are judged first, but only the top eight skaters in each division are allowed to perform their solos. In determining the final ranking, the figures and free skating count equally.

In all divisions, only the top three skaters (or pairs) go on to the sectional competition. There are three sectionals, and only the top three from these go on to the nationals. Also, the novice division is the lowest at nationals. The top three skaters in senior ladies, men,

pairs, and in gold dance then represent all the skaters in the North American, World, and Olympic championships. It takes 10 to 15 years for a skater with enormous self-discipline, talent, coaching, and financial resources to reach this level in this country. To be a champion in the United States is often the same as being a world champion.

Basic Figure

After mastering basic forward and backward skating, stopping and falling down (yes!—just relax), the skater should work on the forward outside figure eight. As the most basic of the 64, the principles in it apply to most others. For instance, the dimensions of the circles are standard for all figures three times the skater's height – except the loops.

To execute the forward outside figure eight, the skater begins by standing in a "T" position with the right foot forward. The posture must be straight, with the knees slightly flexed, arms out and head up. She bends with her knees and pushes with the left foot so that the first circle is skated on the right foot. After the pushoff, the right knee is straightened with the left leg straight out behind. The back is toward the center of the circle.

When the skater is approximately one quarter of the way around the circle, she begins to rotate the body—left foot and arm come forward together while the right arm moves back. This movement must be slow and controlled and is not completed until the skater has finished the circle. Thus, the skater is ready to start the next circle with the left arm forward, right arm back, and left leg raised in front. As the skater steps on the left foot to begin the second circle, the right foot turns at a 90 degree angle to form a "T". The pushoff and movement around the circle are the same except, of course, that the right and left are reversed.

There are, however, many more points to this figure than the basic body positions. For instance, the circle must be absolutely round with no bulges or wobbles. Also, each successive tracing (mark on the ice) must be, ideally, on top of the first one. Therefore, the perfect figure would have the correct shape and look as though the skater had skated it only once (though it is skated three times for testing and competitive purposes). The skater's speed and posture are very important in the execution. The arms must be level and held out at the sides. The skater cannot look at her feet since the head must be up and the back straight. The hips must be level; the only bend is in the knees. Also, this figure must be skated on the outside edge of the blade only. When the skater has gained sufficient

control, then she can concentrate on such things as keeping the toe of the "free leg" pointed, and tracing the pushoffs.

Though one may not be able to achieve the degree of skill of Peggy Fleming or Tim Wood, one may still find much challenge and fulfillment in skating if she is willing to practice.

Skating References

Revised by JOANNE WASHBURN
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Pullman, Washington

Books:

AMERICAN ASSOCIATION FOR HEALTH, PHYSICAL EDUCATION, AND RECREATION, *Third National Institute on Girls Sports: Skiing and Figure Skating.* Washington, D.C.: the Association, 1966.

BIRD, D. L. *Figure Skating for Beginners.* Camden, N.J.: Thomas Nelson & Sons, 1964.

BOECKI, WILLY. *Figure Skating.* New York: National Sports Publications, n.d.

BROWN, N. *Ice-Skating.* New York: A. S. Barnes & Co., 1959.

BUTTON, DICK. *Dick Button on Skates.* New York: Prentice-Hall, 1955.

_____. *Instant Skating.* New York: Grosset & Dunlap, 1964.

CUMMINS, PARKE. *The Dictionary of Sports.* New York: A. S. Barnes and Company, 1949.

DENCH, ROBERT and STEWARD, ROSEMARY. *Pair Skating and Dancing on Ice.* New York: National Sports Publications, n.d.

DU BIEF, JACQUELINE. *Thin Ice.* London: Cassell & Co., Ltd., 1956.

FOXE, ARTHUR N. *Skating for Everyone.* New York: Deerhill Press, n.d.

HENIE, SONIA. *Wings on My Feet.* New York: Prentice-Hall, 1940.

Ice Review. London: Bonar Books, issued intermittently.

International Skating Directory. London: Phyllis East Publishing Co., issued intermittently.

JELINCK, HENRY, JR., and PINCHOT, ANN. *On Thin Ice.* New York: Prentice-Hall, 1965.

LEWIS, FREDERIC. *Modern Skating.* Chicago: Reilly & Lee Co., n.d.

LUSSI, GUSTAVE, and RICHARDS, M. *Championship Figure Skating.* New York: Ronald Press, 1951.

OGILVIE, ROBERT S. *Basic Ice Skating Skills.* Philadelphia: J.B. Lippincott Co., 1968.

OWEN, MARIBEL V. *Fun of Figure Skating.* New York: Harper & Row, 1960.

PARKER, R. *Carol Heiss; Olympic Queen.* New York: Doubleday & Co., 1961.
PUTNAM, HAROLD, and PARKINSON, DAVID. *Skating.* New York: A. S. Barnes & Co., 1939.
RADSPINNER, W. *Skating and Skate Dancing.* Village Station, N.Y.: The Author, 1950.
RICHARDSON, T. D. *The Art of Figure Skating.* New York: A. S. Barnes & Co., 1962.
_____. *Girls' Book of Skating.* Revised edition. New York: Roy Publishers, n.d.
_____. *Skating.* London: Burke Publishing Co., Ltd., 1964.
_____. *Your Book of Skating.* New York: Transatlantic Arts, n.d.
SCOTT, BARBARA ANN. *Skate with Me.* New York: Doubleday & Co., 1950.
SCOTT, BARBARA ANN, and KIRBY, MICHAEL. *Skating for Beginners.* New York: Alfred A. Knopf, 1953.
United States Figure Skating Association Competitions Annual. Boston: the Association, issued annually.
UNITED STATES FIGURE SKATING ASSOCIATION. *The Evaluation of Errors in Figures.* Sixth edition. Boston: the Association, 1964.
_____. *How To Organize and Conduct Competitions.* Boston: the Association, 1955.
_____. *Ice Dances.* Revised edition. Boston: the Association, 1968.
_____. *Skating Through the Years.* Second edition. Boston: the Association, 1957.
_____. *USFSA Rulebook.* Boston: the Association, issued annually.
VAN DER WEYDEN, E. *Dancing on Ice.* London: C. Arthur Pearson, Ltd., 1954.
_____. *Instructions to Young Skaters.* New Rochelle, N.Y.: Soccer Associates, 1958.
VINSON, M. Y. *Primer of Figure Skating.* New York: McGraw-Hill Book Co., 1964.
VON GASSNER, P. *Figure and Dance Skating.* New York: A & S Publishing Co., 1949.
WINTER, J. L. *The Skating Book.* New York: Ivan Obolensky, 1963.
World Ice Skating Guide. New York: National Sports Publications, published intermittently.

Articles:

BELL, JAMES. "A Flash of Fire on Skates." *Sports Illustrated,* Vol. 20, March 4, 1963.
BROWN, GWILYN S. "Kees and Crew are Going to Put a Stopper in Holland's Gold Drain." *Sports Illustrated,* Vol. 28, Feb. 5, 1968, p. 48.

BROWN, RUSTLE. "There's an Undeniable Link between Skating and Dancing." *Dance Magazine*, Vol. 44, Jan. 7, 1970, p. 34.

Periodicals:

Skating. United States Figure Skating Association, Boston, Mass.
Thin Ice. Canadian Figure Skating Association, British Columbia Section, Vancouver 9, B.C.

Skating Visual Aids

NANCY MELCHER
Glenbrook North High School
Northbrook, Illinois

Beauty and the Blade. 16mm, 9 min., sd., b&w. Daily rental (6) or $35.00 for a three year license (4). Barbara Ann Scott demonstrates the skating skills with which she won the Olympic Figure Skating Championships. The film emphasizes the learning and practicing of techniques and concludes with scenes from an ice show. 1948.

Figure Skating. 16mm, 15 min., sd., color. Rental $5.30, #51202 (6), or buy for $150.00 (3). An effective promotional film designed to interest persons of all ages in figure skating. Demonstrations by youngsters and Canadian champions are included. 1963.

Figure Skating Loops Series. 16mm, silent, b&w. Sale $1.00 per loop (5).

1. Basic Skating Techniques – 37 loops.
2. Free Skating – 25 loops.
3. Dancing on Skates – 18 loops.

Each loop demonstrates a single technique or figure from start to finish. The complete title list is available (5). Also, an illustrated manual may be purchased from the Queen's Printer, Ottawa, Canada.

Figure Skating–Filmstrip Series. 35mm, silent, b&w. (3, 6). Illustrates the basic techniques of skating in such a way that details may be observed and learned.

1. Equipment and Basic Skating – 32 frames. $3.00.
2. Singles and Pairs – 32 frames. $3.00.
3. Dancing on Skates – 35 frames. $3.00.

Free Skating. 16mm, sd., $10.00 (5). Presents examples of well-balanced figure skating programs by six experts. The film was prepared by the Eastern Section of the Judging Standards Committee as an aid in the training of judges. It shows the use of jumps, spins, dance steps, individual and original moves, pace and mood.

Ice Skating. 35mm, color. Filmstrip kit, 33-1/3 rpm records of narration. Rent $2.50 (2). Purchase $49.75 sd., $44.25 silent (1). Four units:

Unit I: *Fun, speed, and Beauty.* History of ice skating, meanings, the beauty, skill terms, selection of equipment, use of equipment.

Unit II: *ISIA Alpha Award Exercises.* The figure skate, basic fundamentals, positions on the ice, safety, skating balance, gliding exercises, walking positions.

Unit III: *ISIA Beta Award Exercises.* Four award exercises, backward stroking, crossover strokes, "T" stop.

Unit IV: *ISIA Gamma Award Exercises.* Skating circles, different foot turns.

Introduction to the Art of Figure Skating. 16mm, 11 min., sd., b&w. Rental $2.40, #00734 (6). Barbara Ann Scott demonstrates the fundamentals of figure skating. Film includes a brief discussion of edges and basic figures, an analyses of several complex turns, and some free skating. 1949.

Introduction to Figure Skating. 16mm, 25 min., sd., color. Rent $4.50 (7). An instructional film with explanation and demonstration of basic knowledges, skills and figures. Film concludes with a short demonstration of pair skating. Suggested use is for high school and college physical education classes.

National and World Figure Skating Championships. USFSA official films. 16mm, approx. 35-40 min., sound, (5). Send for annotated film list. National Championships, 1957-present. Seventy different films. Rental fees range from $7.50-$20.00 each. World Championships, 1957. Three films. Rental $7.50 each.

The Ten-fox Film. 16mm, 25 min., sd., b&w. Sale $50.00; rent $10.00; (5). An instructional film on ice dancing produced by the U.S. World Skating Team Memorial Fund Committee. Includes demonstrations of movements in both regular speed and slow motion to help viewers in judging and in learning the Ten-Fox. 1961.

Film Distributors:

(1) Athletic Institute, 805 Merchandise Mart, Chicago, Ill. 60654.
(2) Ideal Pictures, 273 Delaware Ave., Buffalo, N.Y. 14202.
(3) National Film Bureau of Canada, P.O. Box 6100, Montreal, Quebec, Canada; 680 Fifth Ave., New York, N.Y. 10019.
(4) Teaching Film Custodians, Inc., 25 W. 43rd St., New York, N.Y. 10036.
(5) United States Figure Skating Association, Central Office, 178 Tremont St., Boston, Mass. 02111.
(6) University of Illinois, Visual Aids Service, Division of University Extension, Champaign, Illinois 61820.
(7) University of New Hampshire, Audio-Visual Center, Hewitt Hall, Durham, N.H. 03824.

Rules for Girls and Women's Ski Meets
Revised 1970

Rule 1. Officials

The race committee is the governing body of the meet. There shall be a chairman, referee, chief of course, and two members of the sponsoring organization.

The race committee makes all arrangements for the conduct of the meet: receives entries; groups the racers; selects, approves, or changes the course; makes postponements; and appoints officials and all personnel otherwise prescribed. All decisions of the committee shall be made by majority vote. The chairman shall have no vote except in case of a tie. The race committee is responsible for the computation and publication of the results.

A. Chairman – She shall ascertain that all the officials know their specific duties and duty locations throughout the entire meet. She may call meetings at her discretion or at the request of any two members of the race committee.

B. Referee – She shall be responsible for announcing or making known to the competitors any special conditions imposed by the race committee, or interpretations on situations not specifically covered by the rules. She may approve of a substitute for a particular event; may replace officials who prove to be unqualified; and may admonish any contestant who does not follow the racing rules or who refuses to follow the rules of the officials.

C. Chief of course – She shall have charge of, and assign duties to, those individuals connected with the course such as: course setters, gatekeepers, forerunners and ski patrol. She shall be responsible for laying out the course and placing control gates on the slope approved by the race committee, relative to the safety of the contestants and the intent of the race. She is responsible for the preparation and maintenance of the course both before and during the race. If, in her opinion, the course for any race is unsafe to run, she shall have the authority to postpone the race.

D. Chief timer – She is responsible for all phases of timing from the start to the finish and the calculation of elapsed time. She is responsible for the assignment of duties of those individuals concerned with timing, such as the chief starter, judge of finish, timers (at least two in addition to the chief timer), recorders, calculators, and communications personnel. It is her duty to see that the watches are regulated and synchronized and times properly recorded.

E. Starter – She shall be responsible for the starting list and the proper use of warning and starting signals. She shall be responsible for the assistant starter who sees that the contestants are at the starting line in their proper order and in ample time. Unless electrical timing is used, the assistant starter shall serve as false start judge.

F. Recorders – There shall be two recorders (one for each timer). The recorders working with the timers and judge of the finish (who identifies the contestant and her finish) are responsible for recording the finishing times of each racer as given to her by the timers. She shall repeat back to the timer the time given to her in order to avoid errors.

G. Chief gatekeeper – She shall be responsible for all gatekeepers, training them in their duties, if necessary. She shall assign them to their stations. At the completion of the race she shall pick up the penalty cards from each gatekeeper, turning these in to the referee within 15 minutes of the conclusion of the race. (If there are disqualifications the gatekeeper reports in person with the chief gatekeeper to the referee.) The race may not start until the chief gatekeeper indicates to the chief timer that the gatekeepers are properly posted.

H. Gatekeeper – She shall be responsible for no more than four gates which she must be able to maintain. She must know the rules of competition and be in a position to clearly observe these gates to such an extent that there is no question as to whether a contestant passed properly through a gate. Her jurisdiction begins when the contestant passes through the last gate above the highest gate which she is controlling and terminates when the racer passes through the last gate she controls.

Proper passing through a gate requires that both feet shall cross the line between the poles of the gate. A racer is disqualified if she fails to pass through. She is permitted to pass this imaginary line in either direction even by moving backwards.

A gatekeeper may speak to a contestant only after the contestant has spoken to her. The gatekeeper may reply one of two things, "Go on" or "Back," whichever is appropriate to the situation.

At the conclusion of the race the gatekeeper remains at her post until the chief gatekeeper picks up her penalty cards. If she has recorded a disqualification, she must accompany the chief gatekeeper and report the exact circumstances to the referee.

I. Ski patrol – An adequate ski patrol and first aid service shall be available.

Rule 2. Equipment

A. Flags
   1. For slalom race courses, red, blue, and yellow flags must be used.
      a. Colors of flags must alternate or vary on successive gates.
      b. These flags should be at least 16 inches in length, either triangular or rectilinear flags are acceptable.
      c. Single poles are recommended.
   2. For giant slalom race courses red and blue flags must be used.
      a. These flags shall be at least 23 inches by 30 inches.
   3. Downhill race flags shall be of three colors (red, yellow, and blue) and shall be at least 30 inches by 30 inches.
      a. Red flags shall be used to designate the best and safest route.
      b. Yellow flags shall be used to warn contestants of concealed dangers, such as a sharp drop or abrupt changes in course conditions.
      c. Blue flags shall be used as control gates and shall be placed in pairs through which the contestant must pass both feet.

B. Poles – All poles to which flags are attached shall average one inch in diameter and shall extend at least six feet above the snow.

C. Gates – No gate shall be less than 10-3/4 feet wide. The distance of one gate to another shall not be less than 2-1/2 feet. Gates for giant slalom or downhill must be at least 13 feet apart. The gates shall be numbered starting from the top, the numbers fixed on the outside poles.

D. Dye – Colored dye shall be poured around each pole to mark its location so that it may be accurately reset if dislodged.

E. Watches – Watches shall be equipped with a sweep second hand recording minutes, seconds, and tenths of seconds.

F. Communications – Flag or sound may be used; radio, telephone, or walkie-talkie systems are recommended. Electrical timing should be used whenever possible.

G. Single impact headgear required – Final action has been taken by the United States Ski Association requiring that all competitors in sanctioned downhill and giant slalom events–both junior and senior, men and women–must require protective headgear during official training and the actual race. DGWS supports this ruling by also requiring the standard helmet in these two events. The helmet must meet the "single impact" standards established by the Snell Foundation, Colorado Springs. This automatically rules out the leather and sponge protective headgear worn by some competitors during the past few years.

Rule 3. Events

Any event may be postponed or cancelled whenever conditions warrant to safeguard the welfare of contestants.

A. Giant slalom is a race in which the contestants shall follow a course defined by control of flags; the flags in each set must be at least 13 feet apart, placed in such a way that they may be clearly and quickly distinguished. On the average, 20 sets of gates should be set at right angles to the direction of the approach. Gates shall be alternately red and blue colors. Practice is allowed on an approximate course. At least two hours before the race, the flags should be placed in their final positions. Competitors shall be allowed to examine the course either by climbing up on skis or by descending alongside the course at slow speed. In descending, competitors may not pass through any set of gates and may not practice a turn parallel or similar to any turn required by the course under penalty of disqualification. There should be one run in the giant slalom.

B. Slalom is a race in which contestants are obliged to follow a course determined by pairs of flags (gates). The racers must pass through all gates consecutively from start to finish, entering the gates from either side. A participant is judged to have passed through a gate correctly if all of both feet cross the line between the flags. It is required that the whole of one or both skis pass through the gates.

The course should be set on hard-packed snow. Generally, a course is set with 30-35 gates and is not to exceed 40 gates. The flags of each gate must be at least 10-3/4 feet apart with a minimum distance of 2-1/2 feet between gates. Contestants may walk on skis up the course and/or pass through any gate. They may ski in proximity to the course as permitted by the course setter, but are not permitted to shadow the course, that is, to make any turn required by the course as set.

The chief of course may decide that a slalom race may consist of one or two runs; this depends primarily upon the condition and length of the course, and the number of contestants.

C. Downhill – This event is *not recommended by DGWS.** The information is presented in the case the event is included in a ski meet.

The course selected shall make it possible for the contestant to slide continuously from start to finish. It shall be a controlled course which does not include technical slalom figures. Gates shall be so placed as to control speed over difficult and/or rough terrain.

*Please refer to article on page 97.

Downhill race flags shall be of three colors (red, yellow, and blue) and shall be at least 30 inches by 30 inches.

1. Red flags shall be used to designate the best and safest route.
2. Yellow flags shall be used to warn contestants of concealed dangers, such as a sharp drop or abrupt changes in course conditions.
3. Blue flags shall be used as control gates and shall be placed in pairs through which the contestant must pass both feet.

If held on trails, the course shall be clearly defined so that all contestants run the same course. Practice is allowed on the course if conditions warrant. There should be only one run in the downhill race.

Rule 4. Running Order of Contestants and Teams

Teams – For all meets using team scoring, the entry blanks shall be made up so that each team can indicate the starting position for each contestant in each event. The names of the teams are drawn by lot and the competitors' names are placed in their proper positions. If five teams are entered and Team A is drawn first, then its competitors run first, sixth, eleventh, and sixteenth. An alternate method of drawing is to draw for each seed in each event. There shall be a separate draw by lot for each event.

To better equalize conditions, it is suggested that the running order of each seed be reversed in a two run event. Example: Ten teams, racer number 10 would be racer number one in the second, and racer number 20 would be racer number 11 in the second run.

Individual – The race committee shall decide the running order. The usual procedure is to classify skiers into groups in accordance with their ability or racing record, but the race committee may vary the order at their discretion.

For the second run in the slalom, the order of racing may be the best five times in the first run to race in order of times, the best starting first, and the rest following the order of first run. Another method is to split the number of entries in the first run in half and the second half shall start first. In the event of odd number, the extra person shall be included in the second half and therefore start in first section in the second run (i.e. in the case of 45 contestants, No. 23 would be the first competitor in the second run.)

The method to be used shall be announced at the time of team drawing.

Rule 5. Starting

Depending on the length of a course, the number of contestants, the temperature; and proper communications, the second racer on the course should be started when there is no possibility of

confusion, when the course is ready, and when the first racer is nearly finished.

The head starter or referee shall decide when each competitor shall start. If a contestant is not present or ready for her official start, she is automatically disqualified unless specific and special permission is given by the chief timer to the chief starter.

The first warning signal is "ten seconds," which is given ten seconds before the participant may start. The next warning is five seconds before the start and the starter shall use the words, "five, four, three, two, one, go."

In all starting, the toes of the forward boot must be either on line with the starting gate or behind this line. The feet do *not* necessarily have to be motionless.

If a false start occurs, the contestant is disqualified.

Rule 6. Timing

The time shall be computed to the nearest tenth of a second. If two watches are used the average of the two times shall be the official time. If three watches are used, if the time of two or three watches agree, that time will be official. If all three watches disagree, the time of the intermediate watch shall be official. The following timing methods may be used.

A. Hand timing, using a flag or sound signal to simultaneously start the participants and the timers' watches
B. Hand timing, using interval starting and synchronized watches
C. Participant's time
   1. Time using A will be the actual time shown on timer's watch, the watch having been started with the starting signal and stopped when the racer crosses the finish.
   2. Time using B will be the difference between time shown on the official starting list and racer's recorded time of finish.

Rule 7. The Finish

A competitor has finished when both of her feet (she must have a ski on one of them) have crossed the line between the finishing poles.

Rule 8. Disqualifications

A. A participant shall be disqualified in any race:
   1. If she trains on a course closed to participants or rearranges or removes any flags or visible hazards on the course. She may suggests to the Race Committee that these things be done.
   2. If she is late to the start or makes a false start.
   3. If she fails to complete the course on skis and to finish on at least one ski.

4. If she receives assistance in any form. No pace making is permitted.
5. If she fails to cross the line between the flags of all control gates with both feet.
6. If she fails to cross the finish line with both feet.

B. All protests by participants or teams must be reported to the Race Committee in writing within two hours. In the case of a protest against the decision of a gatekeeper, the protest must be made to the referee within ten minutes after the announcement of the decision. All disqualifications should be posted immediately after the event.

C. Interference during an event. The competitor should issue an immediate protest to the referee. The competitor is then given an immediate re-run. If the time of the re-run is slower than that of the competitor's original run, the time is official. However, if the re-run time is better than the original time, the Race Committee decides which run constitutes the official time.

Rule 9. Computation of Results

Results shall be determined in the respective events by the times of the participants, excluding those who have been disqualified.

A. Team scoring – There is no limit to the number of participants on any one team for each event. However, for each event the number of individual scores to count for a team is determined by the number of skiers on the smallest team minus one.

Races may be run by classification of skiers and the best number of each class used for scoring.

The team time for each event is the sum of the times of the agreed number of individual scores as stated above.

The score of each team shall be 100 multiplied by the sum of the best agreed number of scores, regardless of team, divided by the team time.

Example:

$$\text{Team score} = \frac{100 \times \text{sum of agreed number of best times (regardless of team)}}{\text{team time (agreed number of the best times for each team)}}$$

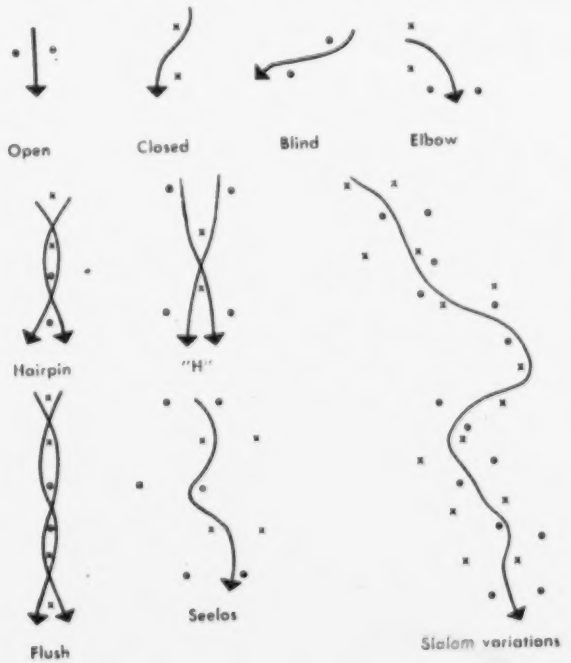
This is the scoring for downhill, slalom, giant slalom. Any or all events may be used and points added to arrive at points for a meet.

B. A combined downhill slalom as an added event may be used, scoring as follows:
Divide the best scores in downhill by the best scores in slalom, multiply by team time in slalom and then add downhill team time.

C. In case a team does not have a full quota of participants or not enough of them to finish to compute that team's score according to the aforementioned system, the following scoring method may be used:
Multiply the sum of the times of those on that team who finish by the square of the number of participants permitted to score, divided by the square of the number who finish.

Slalom Gates and Formations

These formations set in variations with open and closed gates, depending upon the slope, are used to develop an overall rhythmical pattern to the entire course. No gate should be so set that a participant need come to nearly a complete stop in making the turn. Gates are numbered starting from the top. It should be a challenge for mind, muscle, skill, and rhythm of the participant.



Suggested Cross Country Rules

Preface to Suggested Cross Country Rules

The increasing popularity of Cross Country Skiing is recognized by the 1969-1971 Winter Sports Committee.* Early in their term of office, a sub-committee was selected to explore this growing interest. Results of the combined efforts of the sub-committee are presented in the form of Suggested Cross Country Rules for Girls and Women.

The 1971-1973 Winter Sports Committee encourages the reader to submit comments. Please address all correspondence to Joanne Washburn, Winter Sports Chairman, Department of Physical Education, Washington State University, Pullman, Washington 99163.

Rule 1. Officials

The race committee will serve as the governing body for all events. If alpine events are held, the same committee shall serve for the Cross Country event.

The race committee makes all arrangements for the conduct of the meet: receives entries; groups the racers; selects, approves, or changes the course; makes postponements; and appoints officials and all personnel otherwise prescribed. All decisions of the committee shall be made by majority vote. The chairman shall have no vote except in case of a tie. The race committee is responsible for the computation and publication of the results.

A. Chairman. She shall ascertain that all the officials know their specific duties and duty locations throughout the entire meet. She may call meetings at her discretion or at the request of any two members of the race committee.
B. Referee. She shall be responsible for announcing or making known to the competitors any special conditions imposed by the race committee, or interpretations on situations not specifically covered by the rules. She may approve of a substitute for a particular event; may replace officials who prove to be unqualified; and may admonish any contestant who does not follow the racing rules or who refuses to follow the rules of the officials.
C. Chief of course. She shall be responsible for laying out the course, locating checkers, preparing maps and profiles of the course.
D. Chief timer. She shall be responsible for all phases of timing from start to finish and the calculation of elapsed time. She must

*Linda Gorton, Chairman.

record the start time for each competitor. Example: Competitor No. 1 starts at 0:00, No. 2 at 0:30, No. 3 at 1:00, No. 4 at 1:30 minutes, etc.

E. Recorder. She shall be responsible for recording all finish times.
F. Starter. She shall be responsible for the starting list, the proper use of starting signals, and the final countdown.
G. Assistant starter. She shall be responsible for lining the competitors up in proper starting order.
H. Head checker. Shall be responsible for all checkers, training them in their duties if necessary. She shall assign them to their stations.
I. Checkers. She shall be responsible to check all competitors as they go by. Checkers are at intersections where marking alone may be insufficient to indicate proper direction. Checkers may indicate directions without being asked.
J. Forerunners (not less than two). They ascertain that the course is in good condition with no obstructions. In the event of fresh snow, they clear the track. They never interfere with the progress of a competitor.
K. Postrunner. She is responsible for notifying checkers that they may leave their posts. She never passes a competitor.

Rule 2. The Course

A. The course should contain equal portions of uphill, downhill, and level terrain.
B. The course should be a maximum of 5 kilometers (3.1 miles) and a minimum of 3 kilometers (1.9 miles).
C. The course should be safe with no sharp turns at the end of downhills, and no long steep unhill climbs.
D. The course should be well marked. It is recommended that red cloth 3 inches by 2 feet be torn into streamers to mark the course. The streamers should be tied to branches at frequent intervals. Sharp turns should be marked with several flags.
   1. The course setter should visualize herself as a competitor who is unfamiliar with the course.
E. The course begins and ends at the same place.

Rule 3. Running Order

The draw is the same as for Alpine events. The best competitors run last in the cross country event.

Rule 4. Starting

A. Each ski should be marked by an official with waterproof paint.
B. A 30 second warning should be given to each competitor before she starts.
   1. Competitors start at 30 second intervals.

C. The next signal is "ten second warning," then "ready" – "five, four, three, two, one, go!"
D. In starting position the competitor may move her feet in the gate; however, a running start is illegal. Both feet must be behind the line on the signal "Go."
E. Once the starting list is drawn, the starting times for each competitor are final. If a competitor withdraws before the race, her start time will remain, rather than substitute another competitor at that time.
   1. In the event a competitor arrives late for her start, she leaves upon arrival, but her time is determined from the original starting list.

Rule 5. Race Procedure

Each competitor must follow the flagged track and pass all control points. She may use no form of propulsion other than skis and poles, nor make use of any kinds of assistance including pacemarkers in front of, beside, or behind the competitor. The course must be accomplished on skis.

If a ski breaks, the competitor may receive another ski with binding. She must finish with at least one of her original skis. Broken poles may be replaced. A competitor is permitted to wax her skis and repair equipment without assistance. She has the right to make use of a waxing iron, or equivalent for waxing even though kindled by another person; and to receive and use wax which is given to her. She is permitted to take refreshment, either her own or supplied.

A competitor who falls out of the race must inform the nearest official as soon as possible, preferably the officials at the finish.

The competitor is not permitted to leave the track any more than five feet on either side unless danger advocates a greater distance, and then, no more than nine feet on either side.

Rule 6. Timing

The time shall be computed to the nearest second. Clocks with hour, minute, and sweep second hands should be used. Watches are held by the starter and timers. These should be synchronized before the race and compared afterward.

Competitors are started with the starters watch in accordance with the times shown on the running order and timed at the finish line by the timer's watch. The competitor's time is the difference between the time shown for her departure on the official running order, and her recorder time of finish.

Rule 7. The Finish

A competitor has finished the race when both of her feet (she must have at least one original ski on one of them) have crossed the finish line.

Rule 8. Disqualifications

A. A participant shall be disqualified if:
   1. She does not follow the marked track.
   2. She does not pass all control points.
   3. She fails to clear track to an overtaking competitor on first demand.
   4. She does not finish on at least one original ski.

B. All protests by participants or teams should immediately be reported to the meet referee.

Rule 9. Computation of Results

Results shall be determined in the respective events by the times of the participants, excluding those who have been disqualified.

A. Team scoring – There is no limit to the number of participants on any one team for each event. However, for each event the number of individual scores to count for a team is determined by the number of skiers on the smallest team minus one.

Races may be run by classification of skiers and the best number of each class used for scoring.

The team time for each event is the sum of the times of the agreed number of individual scores as stated above.

The score of each team shall be 100 multiplied by the sum of the best agreed number of scores, regardless of team, divided by the team time.

Example:

$$\text{Team score} = \frac{100 \times \text{sum of agreed number of best times (regardless of team)}}{\text{team time (agreed number of the best times for each team)}}$$

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